

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE		PAGE OF PAGES	
2. AMENDMENT/MODIFICATION NO.		3. EFFECTIVE DATE		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)	
6. ISSUED BY		CODE		7. ADMINISTERED BY (If other than Item 6)		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)				(X)		9A. AMENDMENT OF SOLICIATION NO.	
						9B. DATED (SEE ITEM 11)	
						10A. MODIFICATION OF CONTRACT/ORDER NO.	
						10B. DATED (SEE ITEM 11)	
CODE		FACILITY CODE					

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers

☐ is extended, ☐ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment your desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS.  
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

**E. IMPORTANT:** Contractor ☐ is not, ☐ is required to sign this document and return \_\_\_\_\_ copy to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		(Signature of Contracting Officer)	

Item 14. Continued.

#### **CHANGES TO STANDARD FORM 1442**

1. Item 13.A. – Change the bid opening time and date from “2 pm local time 29 August 2001” to “**2 pm local time 6 September 2001**”.

#### **CHANGES TO BIDDING SCHEDULE**

2. Replace the Bidding Schedule, with the accompanying new Bidding Schedule, bearing the notation "ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-01-B-0016."

#### **CHANGES TO WAGE RATES**

3. Section 00710 - Replace the Wage Rates with the attached new Wage Rates, bearing the notation "ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-01-B-0016."

#### **CHANGES TO THE SPECIFICATIONS**

4. Deleted Section - Delete the following section:

SECTION 12620 FURNITURE MOVING AND ASSEMBLE

5. Replacement Sections - Replace the following sections with the accompanying new sections of the same number and title, bearing the notation "ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-01-B-0016:"

SECTION 05500	MISCELLANEOUS METAL
SECTION 09900	PAINTING, GENERAL
SECTION 13850	FIRE DETECTION AND ALARM SYSTEM, DIRECT CURRENT LOOP
SECTION 16415	ELECTRICAL WORK, INTERIOR
SECTION 16710	PREMISES DISTRIBUTION SYSTEM

#### **CHANGES TO THE DRAWINGS**

6. Replacement Drawings.- Replace the drawings listed below with the attached new drawings of the same number, bearing the notation "AM #0001":

G001.cal	Seq 2	G001	INDEX OF DRAWINGS
A103.cal	Seq 11	A103	TYPICAL LIVING MODULE DEMOLITION PLAN
A104.cal	Seq 12	A104	BUILDING 2389 - UNIT "C" SERVICE MODULE DEMOLITION PLAN
A203.cal	Seq 21	A203	TYPICAL LIVING MODULE PLAN
A301.cal	Seq 23	A301	KITCHENETTE PLAN AND ELEVATION
A302.cal	Seq 24	A302	INTERIOR ELEVATIONS
A505.cal	Seq 29	A505	WINDOW DETAILS
MP001.cal	Seq 30	MP001	LEGEND, ABBREVIATION AND GENERAL NOTES
MECHANICAL/PLUMBING			
E002.cal	Seq 38	E002	LEGENDS AND LIGHT FIXTURE SCHEDULE - ELECTRICAL
E107.cal	Seq 45	E107	BUILDING 2273 - OVERALL 1ST FLOOR PLAN - FIRE ALARM
E108.cal	Seq 46	E108	BUILDING 2273 - OVERALL 2ND FLOOR PLAN - FIRE ALARM
E109.cal	Seq 47	E109	BUILDING 2273 - OVERALL 3RD FLOOR PLAN - FIRE ALARM
E110.cal	Seq 48	E110	BUILDING 2389 - OVERALL 1ST FLOOR PLAN - FIRE ALARM
E111.cal	Seq 49	E111	BUILDING 2389 - OVERALL 2ND FLOOR PLAN - FIRE ALARM
E112.cal	Seq 50	E112	BUILDING 2389 - OVERALL 3RD FLOOR PLAN - FIRE ALARM

E201.cal	Seq 51	E201	BUILDING 2273 - ENLARGED FLOOR PLAN UNIT "D" SERVICE MODULE - ELECTRICAL
E202.cal	Seq 52	E202	BUILDING 2273 - ENLARGED FLOOR PLAN UNIT "A" SERVICE MODULE - ELECTRICAL
E203.cal	Seq 53	E203	BUILDING 2389 - ENLARGED FLOOR PLAN UNIT "C" SERVICE MODULE - ELECTRICAL
E204.cal	Seq 54	E204	ENLARGED FLOOR PLAN TYPICAL LIVING MODULE - ELECTRICAL
E301.cal	Seq 55	E301	RISER DIAGRAM AND SCHEDULES - ELECTRICAL
E302.cal	Seq 56	E302	DIAGRAM – ELECTRICAL

7. Clarifications to Drawings – Replace the drawings listed below with the attached new drawings of the same number, bearing the notations “General Revision for Clarity” and “AM0001”; base floor plans have been shaded for clarity. No revisions have been incorporated on these drawings.

A002.cal	Seq 5	A002	BUILDING 2273 - OVERALL 1ST FLOOR PLAN (BASE BID)
A003.cal	Seq 6	A003	BUILDING 2273 -OVERALL 2ND & 3RD FLOOR PLANS
A004.cal	Seq 7	A004	BUILDING 2389 - OVERALL 1ST FLOOR PLAN (BID OPTION #1)
A005.cal	Seq 8	A005	BUILDING 2389 - OVERALL 2ND & 3RD FLOOR PLANS (BID OPTION #1)
A101.cal	Seq 9	A101	BUILDING 2273 - UNIT "D" SERVICE MODULE DEMOLITION PLAN
A102.cal	Seq 10	A102	BUILDING 2273 - UNIT "A" SERVICE MODULE DEMOLITION PLAN
A105.cal	Seq 13	A105	BUILDING 2273 - 1ST FLOOR - ASBESTOS AND LEAD PAINT LOCATION PLAN
A106.cal	Seq 14	A106	BUILDING 2273 - 2ND FLOOR - ASBESTOS AND LEAD PAINT LOCATION PLAN
A107.cal	Seq 15	A107	BUILDING 2273 - 3RD FLOOR - ASBESTOS AND LEAD PAINT LOCATION PLAN
A108.cal	Seq 16	A108	BUILDING 2389 - 1ST FLOOR - ASBESTOS AND LEAD PAINT LOCATION PLAN
A109.cal	Seq 17	A109	BUILDING 2389 - 2ND FLOOR - ASBESTOS AND LEAD PAINT LOCATION PLAN
A110.cal	Seq 18	A110	BUILDING 2389 - 3RD FLOOR - ASBESTOS AND LEAD PAINT LOCATION PLAN
A201.cal	Seq 19	A201	BUILDING 2273 - UNIT "D" SERVICE MODULE PLAN
A202.cal	Seq 20	A202	BUILDING 2273 - UNIT "A" SERVICE MODULE PLAN
A204.cal	Seq 22	A204	BUILDING 2389 - UNIT "C" SERVICE MODULE FLOOR PLAN
MP101.cal	Seq 31	MP101	BUILDING 2273 - 1ST FLOOR DEMOLITION PLAN MECHANICAL/PLUMBING
MP102.cal	Seq 32	MP102	BUILDING 2389 - 1ST FLOOR DEMOLITION PLAN MECHANICAL/PLUMBING
MP201.cal	Seq 33	MP201	BUILDING 2273 - 1ST FLOOR PLAN MECHANICAL/PLUMBING
MP202.cal	Seq 34	MP202	BUILDING 2389 - 1ST FLOOR PLAN MECHANICAL/PLUMBING
MP203.cal	Seq 35	MP203	LIVING MODULE PLAN AT THE 2ND & 3RD FLOOR MECHANICAL/PLUMBING
E101.cal	Seq 39	E101	BUILDING 2273 - OVERALL 1ST FLOOR PLAN - ELECTRICAL
E102.cal	Seq 40	E102	BUILDING 2273 - OVERALL 2ND FLOOR PLAN - ELECTRICAL
E103.cal	Seq 41	E103	BUILDING 2273 - OVERALL 3RD FLOOR PLAN - ELECTRICAL
E104.cal	Seq 42	E104	BUILDING 2389 - OVERALL 1ST FLOOR PLAN - ELECTRICAL
E105.cal	Seq 43	E105	BUILDING 2389 - OVERALL 2ND FLOOR PLAN - ELECTRICAL
E106.cal	Seq 44	E106	BUILDING 2389 - OVERALL 3RD FLOOR PLAN – ELECTRICAL

8. Record Document or As-Built Drawings – Include the following as-built drawings. These drawings are being issued for information only.

266.cal	Seq 266	E4.1	BUILDING 2273 LIGHTING AND POWER FIRST FLOOR PLAN
267.cal	Seq 267	E5	BUILDING 2273 SIGNAL FIRST FLOOR PLAN
268.cal	Seq 268	E6	BUILDING 2273 LIGHTING AND POWER SECOND FLOOR PLAN
269.cal	Seq 269	E7	BUILDING 2273 SIGNAL SECOND FLOOR PLAN
270.cal	Seq 270	E8	BUILDING 2273 LIGHTING AND POWER THIRD FLOOR PLAN
271.cal	Seq 271	E9	BUILDING 2273 SIGNAL THIRD FLOOR PLAN
272.cal	Seq 272	E10.1	BUILDING 2389 LIGHTING AND POWER FLOOR PLAN
273.cal	Seq 273	E11	BUILDING 2389 SIGNAL FIRST FLOOR PLAN
274.cal	Seq 274	E12	BUILDING 2389 LIGHTING AND POWER SECOND FLOOR PLAN
275.cal	Seq 275	E13	BUILDING 2389 SIGNAL SECOND FLOOR PLAN
276.cal	Seq 276	E14	BUILDING 2389 LIGHTING AND POWER THIRD FLOOR PLAN
277.cal	Seq 277	E15	BUILDING 2389 SIGNAL THIRD FLOOR PLAN
263.cal	Seq 263	E1	BOTH BUILDINGS 2273 & 2389 SYMBOL SCHEDULE
278.cal	Seq 278	E16.1	BOTH BUILDINGS 2273 & 2389 PANELBOARD SCHEDULES
279.cal	Seq 279	E17.1	BOTH BUILDINGS 2273 & 2389 LIGHTING FIXTURE SCHEDULE
AND DETAILS			
280.cal	Seq 280	E18	BOTH BUILDINGS 2273 & 2389 MISCELLANEOUS DETAILS

END OF AMENDMENT

## ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-01-B-0016

Barracks Upgrade, Buildings 2273 and 2389 (Title)  
Fort Polk, Louisiana (Location)

Solicitation No. DACA63-01-B-0016

BIDDING SCHEDULE  
 (To be attached to SF 1442)

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Estimated Amount
BASE BID:	All work required by the plans and specifications except BID OPTIONS specifically identified below and further described by the plans and specifications.				
0001	Demolition / Renovations and conversions to existing Barrack Building 2273 excluding all work listed separately.				
		Job	Sum	***	\$_____
0002	Building 2273 Final Record Drawings	Job	Sum	***	\$ 32,000.00
TOTAL BASE BID					\$_____
0003	OPTION NO. 1: Renovation and conversions to existing Barrack Building 2389 excluding all work listed separately				
0003AA	Renovation and conversions to existing Barrack Building 2389 excluding all work listed separately				
		Job	Sum	***	\$_____
0003AB	Building 2389 Final Record Drawings				
		Job	Sum	***	\$ 16,000.00
TOTAL BID OPTION NO. 1					\$_____
0004	BID OPTION NO. 2: All work required by the specifications and plans to remove and replace all windows for existing Barrack Building 2389.				
		Job	Sum	***	\$_____
0005	<b><u>BID OPTION NO. 3: Deleted (Am#1)</u></b>				
0006	<b><u>BID OPTION NO. 4: Deleted (Am#1)</u></b>				

## BIDDING SCHEDULE (cont)

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Estimated Amount
0007	BID OPTION NO. 5: All Work required by the specifications for sodding for existing Barrack Building 2273.				
		Job	Sum	***	\$_____
0008	BID OPTION NO. 6: All Work required by the specifications for sodding for existing Barrack Building 2389.				
		Job	Sum	***	\$_____
TOTAL BASE BID PLUS OPTIONS 1 THRU 6					\$_____

## NOTES:

## 1. ARITHMETIC DISCREPANCIES (EFARS 14.406-2)

(a) For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of the bidding schedule as submitted by bidders:

- (1) Obviously misplaced decimal points will be corrected;
- (2) In case of discrepancy between unit price and extended price, the unit price will govern;
- (3) Apparent errors in extension of unit prices will be corrected; and
- (4) Apparent errors in addition of lump-sum and extended prices will be corrected.

(b) For the purposes of bid evaluation, the Government will proceed on the assumption that the bidder intends his bid to be evaluated on the basis of the unit prices, extensions, and totals arrived at by resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids.

(c) These correction procedures shall not be used to resolve any ambiguity concerning which bid is low.

2. If a modification to a bid based on unit prices is submitted, which provides for a lump sum adjustment to the total estimated cost, the application of the lump sum adjustment to each unit price in the bid schedule must be stated. If it is not stated, the bidder agrees that the lump sum adjustment shall be applied on a pro rata basis to every unit price in the bid schedule.

3. Bidders must bid on all items.

BIDDING SCHEDULE (cont)

NOTES: (cont)

4. Costs attributable to Division 01 - General Requirements are assumed to be prorated among bid items listed.

5. Responders are advised that this requirement may be delayed, cancelled or revised at any time during the solicitation, selection, evaluation, negotiation and/or final award process based on decisions related to DOD changes in force structure and disposition of the Armed Forces.

6. For the purpose of this solicitation, the word "item" shall be considered to mean "schedule" as used in Provision 52.214-0019, CONTRACT AWARD--SEALED BIDDING--CONSTRUCTION, in Section 00100 INSTRUCTIONS, CONDITIONS, AND NOTICES TO BIDDERS, excluding additives, deductives, or optional items.

7. EVALUATION OF OPTIONS (JUL 1990) (FAR 52.217-5)

Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

8. OPTION FOR INCREASED QUANTITY - SEPARATELY PRICED LINE ITEM (MAR 1989)  
(FAR 52.217-7)

The Government may require the completion of the numbered line item, identified in the Bidding Schedule as an option item, in the quantity and at the price stated in the Bidding Schedule. The Contracting Officer may exercise the option by written notice to the Contractor within the period specified in the Bidding Schedule. Completion of added items shall continue at the same schedule as the Base Bid unless otherwise noted in the SPECIAL CONTRACT REQUIREMENTS, paragraph 1 entitled COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK.

9. The Government reserves the right to exercise the option(s) either singularly or in any combination for up to **90 calendar days** after award of the Base Bid without an increase in the Offeror's Bid Price.

**GENERAL DECISION LA010005 08/17/01 LA5**

General Decision Number LA010005

Superseded General Decision No. **LA000005**State: **Louisiana**Construction Type:  
**BUILDING**

## County(ies):

ACADIA	GRANT	SABINE
ALLEN	IBERIA	ST HELENA
ASSUMPTION	IBERVILLE	ST JAMES
AVOYELLES	JACKSON	ST LANDRY
BEAUREGARD	JEFFERSON DAVIS	ST MARY
BIENVILLE	LA SALLE	TANGIPAHOA
CALDWELL	LAFOURCHE	TENSAS
CAMERON	LINCOLN	TERREBONNE
CATAHOULA	MADISON	UNION
CLAIBORNE	MOREHOUSE	VERMILION
CONCORDIA	NATCHITOCHE	<b>VERNON</b>
DE SOTO	OUACHITA	WASHINGTON
EAST CARROLL	PLAQUEMINES	WEBSTER
EAST FELICIANA	POINTE COUPEE	WEST CARROLL
EVANGELINE	RED RIVER	WEST FELICIANA
FRANKLIN	RICHLAND	WINN

**BUILDING CONSTRUCTION PROJECTS** (Does not include single family homes & apartments up to and including 4 stories)

Modification Number	Publication Date
0	03/02/2001
1	04/06/2001
2	05/04/2001
3	06/08/2001
4	07/06/2001
5	<b>08/17/2001</b>

## COUNTY(ies):

ACADIA	GRANT	SABINE
ALLEN	IBERIA	ST HELENA
ASSUMPTION	IBERVILLE	ST JAMES
AVOYELLES	JACKSON	ST LANDRY
BEAUREGARD	JEFFERSON DAVIS	ST MARY
BIENVILLE	LA SALLE	TANGIPAHOA
CALDWELL	LAFOURCHE	TENSAS
CAMERON	LINCOLN	TERREBONNE
CATAHOULA	MADISON	UNION
CLAIBORNE	MOREHOUSE	VERMILION
CONCORDIA	NATCHITOCHE	VERNON
DE SOTO	OUACHITA	WASHINGTON
EAST CARROLL	PLAQUEMINES	WEBSTER
EAST FELICIANA	POINTE COUPEE	WEST CARROLL



EVANGELINE	RED RIVER	WEST FELICIANA
FRANKLIN	RICHLAND	WINN

ASBE0021D 05/01/2001

	Rates	Fringes
BIENVILLE, CALDWELL, CLAIBORNE, DE SOTO, GRANT, JACKSON, LINCOLN, NATCHITOCHEs, OUACHITA, RED RIVER, SABINE, UNION, WEBSTER & WINN PARISHES:		

ASBESTOS WORKERS/INSULATORS (Includes application of all insulating materials, protective coverings, coatings & finishings to all types of mechanical systems)	16.77	4.68
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ASBE0053A 08/30/1999

	Rates	Fringes
ASSUMPTION, AVOYELLES, CATAHOULA, CONCORDIA, EAST FELICIANA, IBERIA, IBERVILLE, LAFOURCHE, LA SALLE, PLAQUEMINES, POINTE COUPEE, ST. HELENA, ST. JAMES, ST. LANDRY, ST. MARY, TANGIPAHOA, TERREBONNE, WASHINGTON & WEST FELICIANA PARISHES:		

ASBESTOS WORKERS/INSULATORS (Includes application of all insulating materials, protective coverings, coatings and finishings to all types of mechanical systems)	15.15	3.55
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ASBE0112A 05/01/1998

	Rates	Fringes
ACADIA, ALLEN, BEAUREGARD, CAMERON, EVANGELINE, JEFFERSON DAVIS, VERMILION & VERNON PARISHES		

ASBESTOS WORKERS/INSULATORS (Includes application of all insulating  materials, protective coverings, coatings and finishings to all types of mechanical systems)	19.145	2.335
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ASBE0114A 07/01/2000

	Rates	Fringes
EAST CARROLL, FRANKLIN, MADISON, MOREHOUSE, RICHLAND, TENSAS & WEST CARROLL PARISHES:		

ASBESTOS WORKERS/INSULATORS (Includes application of all insulating materials, protective coverings, coatings and finishings to all types of mechanical systems)	17.70	4.72
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BOIL0037A 11/01/2000

	Rates	Fringes
ASSUMPTION, LAFOURCHE, PLAQUEMINES, ST. JAMES, TANGIPAHOA, TERREBONNE & WASHINGTON PARISHES:		
BOILERMAKERS	21.85	8.34

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BOIL0079A 11/01/1999

	Rates	Fringes
ACADIA, ALLEN, BEAUREGARD, BIENVILLE, CAMERON, CLAIBORNE, DE SOTO, EVANGELINE, GRANT, IBERIA, JACKSON, JEFFERSON DAVIS, LINCOLN, NATCHITOCHES, RED RIVER, SABINE, ST. LANDRY, ST. MARY, UNION, VERMILION, VERNON, WEBSTER & WINN PARISHES:		
BOILERMAKERS	20.10	6.50

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BOIL0582A 11/01/2000

	Rates	Fringes
AVOYELLES, CALDWELL, CATAHOULA, CONCORDIA, EAST CARROLL, EAST FELICIANA, FRANKLIN, IBERVILLE, LA SALLE, MADISON, MOREHOUSE, OUACHITA, POINTE COUPEE, RICHLAND, ST. HELENA, TENSAS, WEST CARROLL & WEST FELICIANA PARISHES:		
BOILERMAKERS	21.85	8.30

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\* BRLA0001A 05/01/2001

	Rates	Fringes
BRICKLAYERS & STONEMASONS:		
AREA 1	17.40	3.80
AREA 2	15.86	2.85
AREA 3	14.75	1.95
AREA 4	16.05	3.05

## BRICKLAYER &amp; STONEMASON AREA DEFINITIONS

AREA 1 - Acadia, Allen, Beauregard, Cameron, Jefferson Davis  
& Vernon Parishes

AREA 2 - Assumption, East Feliciana, Iberia, Iberville,  
St. Helena, St. Mary, Tangipahoa, Vermilion, Washington &  
West Feliciana Parishes

AREA 3 - Bienville, Caldwell, Claiborne, De Soto, East Carroll,  
Franklin, Jackson, Lincoln, Madison, Morehouse, Ouachita,  
Red River, Richland, Tensas, Union, Webster & West Carroll  
Parishes

AREA 4 - Lafourche, Plaquemines, St. James & Terrebonne Parishes

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BRLA0001E 11/01/1999		
	Rates	Fringes
MARBLE SETTERS:		
AREA 1	17.27	3.20
AREA 2	16.14	2.85
AREA 3	14.75	1.95
AREA 4	16.45	3.05
TERRAZZO WORKERS & TILE SETTERS:		
AREA 1	13.72	3.20
AREA 2	15.14	2.85
AREA 3	13.07	.95
AREA 4	15.45	3.05

AREA DEFINITIONS

AREA 1 - Acadia, Allen, Avoyelles, Beauregard, Cameron, Catahoula, Concordia, Evangeline, Grant, Jefferson Davis, La Salle, Natchitoches, Pointe Coupee, Sabine, St. Landry, Vernon & Winn Parishes

AREA 2 - Assumption, East Feliciana, Iberia, Iberville, St. Helena, St. Mary, Tangipahoa, Vermilion, Washington & West Feliciana Parishes

AREA 3 - Bienville, Caldwell, Claiborne, De Soto, East Carroll, Franklin, Jackson, Lincoln, Madison, Morehouse, Ouachita, Red River, Richland, Tensas, Union, Webster & West Carroll Parishes

AREA 4 - Lafourche, Plaquemines, St. James & Terrebonne Parishes

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BRLA0001H 11/01/1999		
	Rates	Fringes
CAULKERS; CLEANERS; & POINTERS:		
AREA 1	17.27	3.20
AREA 2	16.14	2.85
AREA 3	14.75	1.95
AREA 4	16.45	3.05
MARBLE, TERRAZZO & TILE FINISHERS:		
AREA 1	8.95	2.20
AREA 2	8.11	2.85
AREA 3	8.95	2.20
AREA 4	8.70	2.25

AREA DEFINITIONS

AREA 1 - Acadia, Allen, Avoyelles, Beauregard, Cameron,

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Catahoula, Concordia, Evangeline, Grant, Jefferson Davis,  
La Salle, Natchitoches, Pointe Coupee, Sabine, St. Landry,  
Vernon & Winn Parishes

AREA 2 - Assumption, East Feliciana, Iberia, Iberville,  
St. Helena, St. Mary, Tangipahoa, Vermilion, Washington & West  
Feliciana Parishes

AREA 3 - Bienville, Caldwell, Claiborne, De Soto, East Carroll,  
Franklin, Jackson, Lincoln, Madison, Morehouse, Ouachita,  
Red River, Richland, Tensas, Union, Webster & West Carroll  
Parishes

AREA 4 - Lafourche, Plaquemines, St. James & Terrebonne Parishes

CARP0062A 05/01/1998

	Rates	Fringes
ASSUMPTION, IBERIA (East of the Atchafalaya River), LAFOURCHE, PLAQUEMINES, ST. JAMES (South of the Mississippi River), ST. MARY (East of the Atchafalaya River), TANGIPAHOA, TERREBONNE & WASHINGTON PARISHES:		

LATHERS	14.78	2.30
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CARP0303B 07/01/2001

	Rates	Fringes
CATAHOULA, CONCORDIA & MADISON PARISHES:		

CARPENTERS	18.10	3.36
MILLWRIGHTS	19.10	3.36
PILEDRIVERMEN	19.10	3.36

CARP0403A 07/01/1998

	Rates	Fringes
AVOYELLES, GRANT, LA SALLE, NATCHITOCHES & SABINE PARISHES:		

CARPENTERS	15.00	
MILLWRIGHTS	15.75	
PILEDRIVERMEN	15.50	

CARP0720A 06/01/1998

	Rates	Fringes
EAST FELICIANA, IBERVILLE (Excluding portion south of an East- West line from Darrow, Louisiana to the Atchafalaya River), POINTE COUPEE, ST. HELENA, ST. JAMES (North of the Mississippi River) & WEST FELICIANA PARISHES:		

ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-01-B-0016

MILLWRIGHTS	15.60	.16
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CARP0764A 04/01/2001

	Rates	Fringes
BIENVILLE, CLAIBORNE, DE SOTO, RED RIVER & WEBSTER PARISHES:		

CARPENTERS	16.35	3.54
PILEDRIVERMEN	18.45	3.54
MILLWRIGHTS	18.95	3.54
LATHERS	18.70	3.54

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CARP0953A 07/01/2001

	Rates	Fringes
ALLEN, BEAUREGARD, CAMERON (Excluding Strategic Petroleum Reserve), JEFFERSON DAVIS & VERNON (Excluding Fort Polk) PARISHES:		

CARPENTERS & PILEDRIVERMEN	15.28	2.63
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CAMERON (Strategic Petroleum Reserve) & VERNON (Fort Polk) PARISHES:

CARPENTERS; MILLWRIGHTS; & PILEDRIVERMEN	18.21	2.63
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CARP1098A 05/01/1998

	Rates	Fringes
EAST FELICIANA, IBERVILLE (Excluding portion south of an East-West line from Darrow, Louisiana to the Atchafalaya River), POINTE COUPEE, ST. HELENA, ST. JAMES (North of the Mississippi River) & WEST FELICIANA PARISHES:		

CARPENTERS	10.40	1.95
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CARP1476A 06/01/1998

	Rates	Fringes
ALLEN, BEAUREGARD, CAMERON, JEFFERSON DAVIS & VERNON (Excluding Fort Polk) PARISHES:		

MILLWRIGHTS	12.53	.07
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CARP1811A 07/01/1998

	Rates	Fringes
CALDWELL, EAST CARROLL, FRANKLIN, JACKSON, LINCOLN, MOREHOUSE, OUACHITA, RICHLAND, TENSAS, UNION, WEST CARROLL & WINN PARISHES:		

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ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-01-B-0016

CARPENTERS	12.30	1.85
MILLWRIGHTS	13.20	1.85
PILED RIVERMEN	12.80	1.85

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CARP1897A 02/01/2001

	Rates	Fringes
ACADIA, EVANGELINE, IBERIA (West of Atchafalaya River), ST. LANDRY, ST. MARY (West of Atchafalaya River) & VERMILION PARISHES:		

CARPENTERS	13.51	2.35
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CARP9999A 02/01/1997

	Rates	Fringes
ASSUMPTION, IBERIA (East of the Atchafalaya River), IBERVILLE (South of an East-West line from Darrow, Louisiana to the Atchafalaya River), LAFOURCHE, PLAQUEMINES, ST. JAMES (South of the Mississippi River), ST. MARY (East of the Atchafalaya River), TANGIPAOHA, TERREBONNE & WASHINGTON PARISHES:		

CARPENTERS	14.21	3.20
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ELEC0130A 03/01/2001

	Rates	Fringes
ASSUMPTION, LAFOURCHE, PLAQUEMINES, ST. JAMES, ST. MARY (Northeast of the Atchafalaya River) & TERREBONNE PARISHES:		

ELECTRICIANS & CABLE SPLICERS	20.45	3.74
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ELEC0130C 01/01/2000

	Rates	Fringes
ASSUMPTION, LAFOURCHE, PLAQUEMINES, ST. JAMES, ST. MARY (Northeast of Atchafalaya River) & TERREBONNE PARISHES:		

LINE CONSTRUCTION:

Lineman	19.39	3.61
Hole Digging Equipment; Tractor with Winch & Derrick; Line Truck with Winch & Derrick Working in Hot Lines	14.54	3.47
Pole Truck & Trailer or Pole Hauling & Setting Truck (Not in Energized Lines)	12.60	3.41
Groundman	9.695	3.32
Truck without Winch	8.73	3.29

ELEC0194A 01/04/2001

BIENVILLE, CLAIBORNE, DE SOTO, NATCHITOCHES (Northeast of the Red River), RED RIVER & WEBSTER PARISHES:

	Rates	Fringes
ELECTRICIANS	18.90	7.53
CABLE SPLICERS	19.40	7.54

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ELEC0194B 04/01/1998

BIENVILLE, CLAIBORNE, DE SOTO, NATCHITOCHES (East of the Red River), RED RIVER & WEBSTER PARISHES:

LINE CONSTRUCTION:

	Rates	Fringes
Lineman	14.45	3.39
Operator	10.60	3.25
Groundman; Truck Driver	6.45	3.09

ELEC0446A 03/01/2001

CALDWELL, EAST CARROLL, FRANKLIN, JACKSON, LINCOLN, MADISON, MOREHOUSE, OUACHITA, RICHLAND, TENSAS, UNION & WEST CARROLL PARISHES:

	Rates	Fringes
ELECTRICIANS	16.80	3.78
CABLE SPLICERS	17.05	3.79

ELEC0446B 03/01/2001

CALDWELL, EAST CARROLL, FRANKLIN, JACKSON, LINCOLN, MADISON, MOREHOUSE, OUACHITA, RICHLAND, TENSAS, UNION & WEST CARROLL PARISHES:

	Rates	Fringes
Equipment Operator; Lineman	16.80	3.78
Cable Splicer	17.05	3.79
Groundman	10.08	3.58

ELEC0576A 03/01/2001

AVOYELLES, CATAHOULA, CONCORDIA, EVANGELINE, GRANT, LA SALLE, NATCHITOCHES (Southwest of Red River), SABINE, VERNON & WINN PARISHES:

	Rates	Fringes
ELECTRICIANS	17.20	3.39
CABLE SPLICERS	17.70	3.41

ELEC0576C 03/01/2001

AVOYELLES, CATAHOULA, CONCORDIA, EVANGELINE, GRANT, LA SALLE, NATCHITOCHES (Southwest of Red River), SABINE, VERNON & WINN

ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-01-B-0016

PARISHES:

LINE CONSTRUCTION:

Equipment Operator; Lineman	17.20	3.39
Groundman	11.18	3.15

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ELEC0861A 10/01/2000

	Rates	Fringes
ACADIA, ALLEN, BEAUREGARD, CAMERON, IBERIA, JEFFERSON DAVIS, ST. MARY (Southwest of Atchafalaya River) & VERMILION PARISHES:		

ELECTRICIANS	17.83	4.43
CABLE SPLICERS	18.33	4.43

ELEC0861C 05/01/1998

	Rates	Fringes
ACADIA, ALLEN, BEAUREGARD, CAMERON, IBERIA, JEFFERSON DAVIS, ST. MARY (Southwest of Atchafalaya River) & VERMILION PARISHES:		

LINE CONSTRUCTION:

Equipment Operator; Lineman; & Truck Driver	19.70	3.96
Cable Splicer	20.20	3.98
Groundman	17.70	3.90

\* ELEC0995A 06/01/2001

	Rates	Fringes
EAST FELICIANA, IBERVILLE, POINTE COUPEE, ST. HELENA, ST. LANDRY & WEST FELICIANA PARISHES:		

ELECTRICIANS:

Electrical Contracts Up to & Including 5 Million Dollars:		
Electrician	18.25	4.30
Cable Splicer	18.50	4.34

Electrical Contracts Over 5 Million  
Dollars:

Electrician	19.50	4.45
Cable Splicer	19.75	4.47

ELEC0995C 06/01/2001

	Rates	Fringes
EAST FELICIANA, IBERVILLE, POINTE COUPEE, ST. HELENA, ST. LANDRY & WEST FELICIANA PARISHES:		

LINE CONSTRUCTION:

Electrical Contracts Up To & Including \$5,000,000.00:		
Lineman; Technician	18.45	4.12

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ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-01-B-0016

Cable Splicer	18.70	4.15
Heavy Equipment Operator	13.84	3.59
Truck Driver; Groundman	8.30	2.95

Electrical Contracts Over \$5,000,000.00:

Lineman; Technician	19.70	4.27
Cable Splicer	19.95	4.29
Heavy Equipment Operator	14.775	3.70
Truck Driver; Groundman	8.865	3.02

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ELEC1077A 06/01/2001

	Rates	Fringes
TANGIPAHOA & WASHINGTON PARISHES:		
ELECTRICIANS	18.05	3.04
CABLE SPLICERS	18.80	3.06

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ELEV0016A 07/10/1999

	Rates	Fringes
ACADIA, ALLEN, ASSUMPTION, BEAUREGARD, CAMERON, EAST FELICIANA, EVANGELINE, IBERIA, IBERVILLE, JEFFERSON DAVIS, LAFOURCHE, PLAQUEMINES, POINTE COUPEE, ST. HELENA, ST. JAMES, ST. LANDRY, ST. MARY, TANGIPAHOA, TERREBONNE, VERMILION, WASHINGTON & WEST FELICIANA PARISHES:		

ELEVATOR MECHANICS	20.585	6.935+a+b
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FOOTNOTES:

a. Seven Paid Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; The Day after Thanksgiving; & Christmas Day

b. Employer contributes 8% of regular hourly rate to vacation pay credit for employee who has worked in business more than 5 years; 6% for less than 5 years

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ELEV0098B 12/05/2000

	Rates	Fringes
AVOYELLES, BIENVILLE, CALDWELL, CATAHOULA, CLAIBORNE, CONCORDIA, DE SOTO, EAST CARROLL, FRANKLIN, GRANT, JACKSON, LA SALLE, LINCOLN, MADISON, MOREHOUSE, NATCHITOCHES, OUACHITA, RED RIVER, RICHLAND, SABINE, TENSAS, UNION, VERNON, WEBSTER, WEST CARROLL & WINN PARISHES:		

ELEVATOR MECHANICS	22.225	7.195+a+b
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FOOTNOTES:

a. 7 Paid Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; the day after Thanksgiving; & Christmas Day

b. Employer contributes 8% of regular hourly rate to vacation

pay credit for employee who has worked in business more than  
5 years; 6% for less than 5 years.

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ENGI0406A 05/01/1998

	Rates	Fringes
EAST FELICIANA, IBERVILLE, POINTE COUPEE, ST. HELENA & WEST FELICIANA PARISHES;		
ASSUMPTION & ST. JAMES PARISHES (Northwest of a straight line drawn from the city of Berwick to the city of Lutchter);		

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IBERIA PARISH (East & west of a line from the city of Berwick,  
north to the eastern boundary of the city of Krotz Springs);  
TANGIPAHOA & WASHINGTON PARISHES (West of a line drawn north from  
the city of Lutchter to the east side of the city of Hammond to  
the Louisiana-Mississippi border):

POWER EQUIPMENT OPERATORS:

GROUP 1	16.11	2.50
GROUP 2	16.36	2.50
GROUP 3	16.61	2.50
GROUP 4	16.86	2.50
GROUP 5	17.11	2.50
GROUP 6	17.36	2.50
GROUP 7	15.86	2.50
GROUP 8	13.18	2.50
GROUP 9	11.61	2.50
GROUP 10	9.45	2.50
GROUP 11	10.78	2.50

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1 - Crane 60 Tons & Over; Crane Boom 100 ft. & Over, but  
less than 150 ft.; & Piledriver, Leads 100 ft. & Over, but less  
than 150 ft.

GROUP 2 - Crane 100 Tons, up to 125 Tons; Crane Boom 150 ft. &  
Over, but less than 225 ft.; & Piledriver, Leads 150 ft. &  
Over, but less than 225 ft.

GROUP 3 - Crane 125 Tons, up to 200 Tons; Crane Boom 225 ft. &  
Over, but less than 300 ft.; & Piledriver, Leads 225 ft. &  
Over, but less than 300 ft.

GROUP 4 - Crane 200 Tons, up to 300 Tons

GROUP 5 - Crane 300 Tons

GROUP 6 - Crane Boom 300 ft. & Over; & Piledriver 300 ft. &  
Over

GROUP 7 - Crane; Backhoe; Cableway; Concrete Mixer, 16S & Up;  
Derrick; Dragline; Dredge; Hoist, 2 Drums; Locomotive Crane;  
Paving Mixer; Piledriver; Road Paver; Roller on Asphalt or  
Brick (5 Tons or Over); Shovel; Sideboom Cat; Bulldozer; Motor

Patrol; Scraper; Hydrolift Crane; Hydrolift Truck; Yard Crane; Cherry Picker, etc.; Foundation, Boring & Reaming Machine; Cement Stabilizer; Trenching Machine; Asphalt Spreader; Traxcavator & Similar Front End Loading Equipment with Scoop or Bucket of 1 cu. yd. or more capacity; Tug Boat; Turnapull, Euclid, DW-10 & Other Similar Self-Loading Earth Moving Equipment; Concrete Pump (Not Pumpcrete); & Computer Batch Plant

GROUP 8 - A-Frame Truck; Crew Boat; Fireman; Fork Lift; Straddle Buggy; Traxcavator, Scoopmobile & Similar Front End Loading

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Equipment with Scoop or Bucket, Under 1 cu. yd. capacity; Locomotive; Well Point System; Unit Operator; & Hoist, 1 Drum, 4 stories & Over

GROUP 9 - Air Compressor; Asphalt Plant Engineer; Blade Grader; Distributor (Bituminous Surface); Finishing Machine (Concrete, Paving); Hoist, 1 Drum, Less than 4 stories; Concrete Mixer Under 16-S; Oiler Driver; Pump Crete; Street & Road Sweeper; Roller (Except on Asphalt or Brick); Roller, Asphalt or Brick (Under 5 Tons); Post-Hole Digger; Tractor, Bush Hog & Similar Grass or Bush Cutting Equipment; & Batch Plant

GROUP 10 - Oiler

GROUP 11 - Pump, Over 3" Suction; & Snatch Cat

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ENGI0406B 11/01/1998

Rates Fringes  
ALLEN, BEAUREGARD, CAMERON, JEFFERSON DAVIS & VERNON PARISHES:

POWER EQUIPMENT OPERATORS:

Group 1	13.36	2.50
Group 2	9.25	2.50
Group 3	13.61	2.50
Group 4	13.86	2.50
Group 5	14.11	2.50
Group 6	14.36	2.50
Group 7	14.86	2.50
Group 8	8.59	2.50

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1 - Crane; Derrick; Deck Winch (2); Hi-Ho & Similar Type Equipment; Three Drum (or more) Stabilizer; Pull; Concrete Mixer 1 yd. & over; Paver; Ditching or Trenching Machine (Track Type); Mechanic & Equipment Welder; Wellpoint System; Hoist, 2 Drums or more; Hoist, 1 Drum, 40 Vertical ft. or more; Scraper; Bulldozer, Rubber-tired or Track, other than Farm-type; Scoopmobile; Motor Patrol; Gradeall; Roller on Hot Mix; Asphalt Paving Machine; Front End Loader, other than Farm-type, 1 cu. yd. or over; Shovel & Backhoe & Equivalent Equipment; Piledriver; Sideboom Cat; Boom Truck; Bush Hog;

Cableway; Cherry Picker; Dredge; Foundation Drill Locomotive;  
Motorized Street Sweeper (Self-propelled) Push Cat; & Test  
Pump (Internal Combustion Engine Powered)

GROUP 2 - Two Drum & Single Drum Stabilizer; Front End Loader  
under 1 cu. yd.; A-Frame Truck when handling Steel or Pipe;  
Finishing Machine (Concrete); Power Subgrader; 2 Tractors  
(Crawler Type); 1 Drum Hoist Under 40 Vertical Ft.;

Fireperson; Concrete Spreader; Pugmill; Bituminous Distributor  
on Surface Treatment & Equivalent Equipment; Bull Float &  
Equivalent Equipment; Job Greaseman; Work Boat, not requiring

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licensed operators; Inboard & Outboard Motored Crew Boat;  
Concrete Mixer Under 1 yd.; Spray Curing Machine; Roller on  
Subgrade; 1 Air Compressor over 125 cu. ft.; Form Grader;  
Asphalt Finisher Screedman; Pump Over 4"; Scale Operator;  
Crusher; Concrete Jointing Machine; Concrete Saw; Tack Machine  
& Equivalent Equipment; Pumpcrete; Electric Elevator (Inside);  
Oiler Driver; Farm-type Rubber Tired Tractor with attachments,  
except Backhoe; Kolum Buff & Similar Equipment; Fork Lift, 10-  
ton capacity & Under; Batch Plant; Oiler on Crane using Air to  
Drive Pile; Fireperson Operating Steam Valve, Unit Operator;  
Mixer (1 Sack Under); Oiler-Compressor; Oiler-Driver on Motor  
Crane; Oiler-Fireperson; Pump (Under 3" Suction); Scale  
Operator, Water Blast Pump; & Welding Machine

GROUP 3 - Operator on Crane 60 to 99 Tons; Crane with Boom 100  
Ft. to 149 Ft.

GROUP 4 - Operator on Crane 100 to 125 Tons; Crane with Boom  
150 Ft. to 224 Ft.

GROUP 5 - Operator on Crane 126 to 200 Tons

GROUP 6 - Operator on Crane 201 to 300 Tons; Crane with Boom  
225 Ft. to 299 Ft.

GROUP 7 - Operator on Crane Over 300 Tons; Crane with Boom 300  
& Over

GROUP 8 - Oiler

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ENGI0406C 05/06/1998

Rates Fringes  
BIENVILLE, CLAIBORNE, DE SOTO, RED RIVER & WEBSTER PARISHES:

POWER EQUIPMENT OPERATORS:

GROUP 1	9.91	3.55
GROUP 2	11.79	3.55
GROUP 3	12.65	3.55
GROUP 4	13.50	3.55
GROUP 5	14.23	3.55
GROUP 6	14.87	3.55

GROUP 7 15.41 3.55

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1 - Unit Operator; Well Point; Water Pump (Over 6");  
Fireman; Assistant to Engineer (Oiler, Signalman, Tender);  
Motorized Sweeper; & Roller

GORUP 2 - A-Frame, Winch Truck; Farm Type Tractor with  
Attachments (Excluding Backhoe); Single Drum Hoist (Less than 6  
stories or 60 ft.); Elevator Operator; Kolum Buff Machine; Bull

Float; Concrete Spreader; Finish Machine; Dowel Bar Machine;

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Oiler Driver; Distributor (Bituminous Surface); Forklift (Up to  
10,000 lbs.); Ditchwitch & Similar Equipment (Under 66" Depth);  
& Skytrack, Carrylift & Similar Equipment

GROUP 3 - Pull Cat; Concrete Pump (Under 6"); Straddle Buggy;  
Crawler Tractor, Bulldozer & Front End Loader (D-4 Equivalent &  
Under); A-Frame, Winch Truck (When Handling Steel or Pipe); &  
Grease Serviceman

GROUP 4 - Asphalt Plant; Backhoe (Rubber Tired); Hydralift &  
Boom Truck; Double Drum Hoist; Single Drum Hoist (Over 6  
stories or 60 ft.); Motor Patrol (General); Multiengine  
Scrapper (Tandem or Dual Units); Hydrocrane (Less than 15  
Tons); Winch Cat (Hoisting); Road Paver; Concrete Pump  
(Over 6"); Tractorvator; Forklift (Over 10,000 lbs.); Asphalt  
Spreader; Sideboom Cat; & Scoopmobile

GROUP 5 - Crane (Under 60 Tons); Clamshell, Dragline, Shovel,  
Track Mounted Backhoe (Up to 2 Yds.); Motor Patrol (Finish);  
Crawler, Tractor, Bulldozer, Front End Loader (Over D-4 &  
Equivalent); Cableway; Concrete Mixer, Batch Plant; Derrick;  
Trenching & Ditching Machine (Over 66" Depth); Hoist (Over 2  
Drums); Piledriver; & Mechanic, Welder

GROUP 6 - Clamshell, Dragline, Shovel, Track Mounted Backhoe  
(Over 2 Yds.); & Crane (Under 200 Tons)

GROUP 7 - Crane (200 Tons & Over)

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ENGI0406D 11/01/1998

	Rates	Fringes
ACADIA, AVOYELLES, CALDWELL, CATAHOULA, CONCORDIA, EAST CARROLL, EVANGELINE, FRANKLIN, GRANT, IBERIA (Excluding portion east & west of a line from the city of Berwick, north to the eastern boundary of the city of Krotz Springs), JACKSON, LA SALLE, LINCOLN, MADISON, MOREHOUSE, NATCHITOCHES, OUACHITA, RICHLAND, SABINE, ST. LANDRY, ST. MARY, TENSAS, UNION, VERMILION, WEST CARROLL & WINN PARISHES:		

POWER EQUIPMENT OPERATORS:

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GROUP 1	9.55	2.20
GROUP 2	10.58	2.20
GROUP 3	10.68	2.20
GROUP 4	11.15	2.20
GROUP 5	13.32	2.20

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1 - Oiler

GROUP 2 - Oiler-Driver

GROUP 3 - Scaleperson

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GROUP 4 - Air Compressor; Asphalt Plant; Bulldozer, D-4 & Equivalent & Under; Bullfloats; Concrete Spreader; Finishing Machines; Concrete Mixers (16-s or less); Concrete Saw; Distributors (Bituminous Surface); Dowell Bar Machine; Farm-type Tractor (With all attachments, except Backhoe); Fire-person; Fork Lifts (Other than Setting Steel, Machinery or Pipe); Hoist, 1 Drum less than 4 stories; Kolum Buff Machine; Pull Cats; Pump (3" & Over); Pump, Concrete (Under 6"); Rollers, except on Asphalt or Brick; Straddle Buggies; Sweepers on Streets & Roads (Motorized); Winch Truck, A-Frame (Other than handling Steel or Pipe)

GROUP 5 - Asphalt Spreader; Backhoe; Bulldozer, Over D-4 & Equivalent; Cableways; Concrete Mixer, Over 16-s; Cranes; Derricks; Ditching or Trenching Machines; Draglines; Fork Lifts (Setting Steel, Machinery or Pipe); Front End Loaders (Except Farm-type Tractors); Grease Service Person; Hoist, 1 Drum, 4 stories or more or 40 ft. (on Structures other than buildings); Hoist, 2 Drums & Over; Hydrolifts; Heavy Duty Mechanic; Motor Patrols; Piledrivers; Pump Concrete (6" & Over); Road Pavers; Rollers on Asphalt or Brick; Scoopmobiles; Scrapers; Sideboom Cats; Shovels; Tractor-vators; Welder; Winch Cats (Hoisting); Winch Truck, A-Frame (Handling Steel or Pipe)

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ENGI0406E 11/01/1998

	Rates	Fringes
LAFORCHE, PLAQUEMINES & TERREBONNE PARISHES;		

ASSUMPTION, ST. JAMES, ST. MARY, TANGIPAHOA & WASHINGTON PARISHES (That portion of southeastern Louisiana bounded on the north by the state of Mississippi, on the east by the state of Mississippi & the Mississippi Sound, on the south by the Gulf of Mexico & on the west by a line drawn as follows: beginning at a point on the Louisiana-Mississippi boundary in Washington Parish, due north of the town of Hackley, then southwesterly in a straight line to a point on the east bank of the Mississippi River at the southernmost point of Lutchter ((including Gramercy in the area)), thence in a more southwesterly direction in a

straight line to midstream of the Atchafalaya River at Morgan City-Berwick ((including Morgan City in this area)), thence southerly on a line following midstream of the Atchafalaya River to the Atchafalaya Bay & in a line due south to the Gulf of Mexico):

POWER EQUIPMENT OPERATORS:

GROUP 1	17.23	2.50
GROUP 2	16.73	2.50
GROUP 3	16.23	2.50
GROUP 4	15.98	2.50
GROUP 5	15.73	2.50
GROUP 6	15.48	2.50
GROUP 7	15.23	2.50
GROUP 8	12.68	2.50

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GROUP 9	12.49	2.50
GROUP 10	10.79	2.50
GROUP 11	9.08	2.50

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1 - Crane Over 400 Tons; & Crane Boom 400 Ft. & Over

GROUP 2 - Crane 300 Tons & Up to 400 Tons; Crane Boom 300 Ft. & Over, but Less Than 400 Ft.; & Tower Crane Over 30 Floors

GROUP 3 - Crane 200 Tons & Up to 300 Tons; Crane Boom 225 Ft. & Over, but Less Than 300 Ft.; & Tower Crane Boom Height 225 Ft. & Over Up to 30 Floors

GROUP 4 - Crane 125 Tons & Up to 200 Tons

GROUP 5 - Crane 100 Tons & Up to 125 Tons; Crane Boom 150 Ft. & Over, but Less Than 225 Ft.; Tower Crane Boom Height 150 Ft. & Over, but Less Than 225 Ft.

GROUP 6 - Crane 60 Tons & Above; Crane Boom 100 Ft. & Over, but Less Than 150 Ft.; Tower Crane Boom Height 100 Ft. & Over, but Less Than 150 Ft.

GROUP 7 - Heavy Equipment

GROUP 8 - Unit & wellpoint

GROUP 9 - Light Equipment

GROUP 10 - Batch Plant; & Oiler (Driver)

GROUP 11 - Oiler

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IRON0058A 06/01/2000

Rates

Fringes

PLAQUEMINES PARISH;

DACA63-01-B-0016

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LAFOURCHE, ST. JAMES, TANGIPAHOA, TERREBONNE & WASHINGTON PARISHES (West of a straight line drawn from the Louisiana-Mississippi border, east of the city limits of Warrenton, Louisiana, southwest through Hammond, Louisiana to the Gulf of Mexico):

IRONWORKERS	16.80	4.60
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IRON0469A 10/15/2000

	Rates	Fringes
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MADISON PARISH (The cities of Mound & Delta & adjacent areas):

IRONWORKERS	16.80	4.36
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IRON0591A 06/01/2000

	Rates	Fringes
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DE SOTO, RED RIVER & WEBSTER PARISHES;

BIENVILLE, CLAIBORNE, NATCHITOCHES & WINN PARISHES (West of a line drawn directly south from the Arkansas-Louisiana border through the cities of Arcadia & Cloutierville);

SABINE PARISH (North of a line drawn from the Natchitoches Parish boundary west through the city of Peason to the Texas-Louisiana border):

IRONWORKERS	16.80	4.35
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IRON0623A 06/01/2000

	Rates	Fringes
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ASSUMPTION, AVOYELLES, EAST FELICIANA, IBERIA, IBERVILLE, POINTE COUPEE, ST. HELENA, ST. MARY & WEST FELICIANA PARISHES;

ACADIA, EVANGELINE, ST. LANDRY & VERMILION PARISHES (East of a line drawn from the meeting point of the boundaries of the Parishes of Avoyelles, Evangeline & Rapides, southeast along the western city limits of Abbeville to the Gulf of Mexico);

CATAHOULA, CONCORDIA & LA SALLE PARISHES (South of a line drawn from Natchez through the city of Cottonport to the Rapides Parish line, then west along the southern border of Rapides Parish);

LAFOURCHE, TANGIPAHOA, TERREBONNE & WASHINGTON PARISHES (West of a straight line drawn from the Louisiana-Mississippi border, west of the city limits of Warrenton, southwest through Hammond to the Gulf of Mexico);

ST. JAMES PARISH (West of a straight line drawn from the Louisiana-Mississippi border, west of the city limits of



Warrenton, southwest through Hammond to the Gulf of Mexico):

IRONWORKERS	16.80	4.35
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IRON0710A 10/15/2000

	Rates	Fringes
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ALLEN, BEAUREGARD, CALDWELL, CAMERON, EAST CARROLL, FRANKLIN,  
GRANT, JACKSON, JEFFERSON DAVIS, LINCOLN, MOREHOUSE, OUACHITA,  
RICHLAND, TENSAS, UNION, VERNON & WEST CARROLL PARISHES;

ACADIA, EVANGELINE, ST. LANDRY & VERMILION PARISHES (Southwest of  
Rapides Parish & west of a line south of the westernmost border  
between Rapides & Evangeline);

BIENVILLE, CLAIBORNE, NATCHITOCHES & WINN PARISHES (East of a  
line drawn directly south from the Arkansas-Louisiana border

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through the cities of Arcadia & Cloutierville);

CATAHOULA, CONCORDIA & LA SALLE PARISHES (North of a line drawn

from Natchez through the city of Cottonport to the Rapides  
Parish line);

MADISON PARISH (Except the cities of Mound, Delta & adjacent  
areas):

IRONWORKERS	16.80	4.36
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LABO0207A 06/01/1999

	Rates	Fringes
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ALLEN, BEAUREGARD, CAMERON, JEFFERSON DAVIS & VERNON PARISHES:

LABORERS:

Vernon Parish (Ft. Polk)	9.75	1.75
Allen, Beauregard, Cameron, Jefferson Davis & Vernon (Exclu. Ft. Polk) Parishes	9.75	1.75

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LABO0229A 05/01/1998

	Rates	Fringes
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BIENVILLE, CLAIBORNE, DE SOTO, RED RIVER, SABINE & WEBSTER  
PARISHES:

LABORERS:

Jackhammer Operators	7.50	.90
All Other Laborers	6.10	.90

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LABO0689A 07/01/1998

	Rates	Fringes
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ASSUMPTION, LAFOURCHE, PLAQUEMINES, ST. JAMES, TANGIPAHOA,

ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-01-B-0016

TERREBONNE & WASHINGTON PARISHES:

LABORERS:

Assumption, St. James, Tangipahoa & Washington Parishes	6.91	1.42
Lafourche & Plaquemines Parishes	8.13	1.42
Terrebonne parish	9.70	1.42

LABO0762A 11/01/1998

	Rates	Fringes
ACADIA, AVOYELLES, EVANGELINE, GRANT, IBERIA, LA SALLE, NATCHITOCHES, ST. LANDRY, ST. MARY, VERMILION & WINN PARISHES:		

LABORERS:

GROUP 1	8.92	.80
GROUP 2	9.12	.80

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LABORER CLASSIFICATIONS

GROUP 1 - Building; Rotary Drill; & Foundation Drill Crewmen

GROUP 2 - Mason Mixer; Plaster Mixer; Mechanical Tool Operator (Jackhammer, Vibrator, Tamper, Chipping Gun, Soil Tiller) & Burner on Demolition; Sandblaster; Laying Concrete Pipe, Clay Pipe, Plastic Pipe, Asbestos Cement Pipe, Casing Pipe & Corrugated Metal Pipe, as Sewer Pipe & Underground Tile (Caulkers, Joint Wipers, Hot Pot & Pipe Layers); Gas & Oil Pipeline Laborer; Wrapper & Doper

LABO0831A 11/01/1998

	Rates	Fringes
CALDWELL, CATAHOULA, CONCORDIA, EAST CARROLL, FRANKLIN, JACKSON, LINCOLN, MADISON, MOREHOUSE, OUACHITA, RICHLAND, TENSAS, UNION & WEST CARROLL PARISHES:		

LABORERS:

GROUP 1	8.45	.80
GROUP 2	8.60	.80
GROUP 3	8.75	.80

LABORER CLASSIFICATIONS

GROUP 1 - General; Tender (Brickmason, Stonemason, Cement Mason, Carpenter & Plasterer); Stripping & Dismantling; Concrete Form Work; Loading, Unloading, Carrying & Handling Steel & Steel Mesh; Assisting to the Setting of Cut Stone, Granite or Artificial Stone; Building Scaffold; & Shoring

GROUP 2 - Mechanical Tool Operator (Air, Electric, Motor, Engine, Etc.); Sewer Pipelayer; Mortar Mixer (Hand or Machine);

Gunnite Operator; Tile, Terrazzo & Marble Setter Finishers

GROUP 3 - Pipe Doper & Burner

LABO1177A 05/01/1998

	Rates	Fringes
EAST FELICIANA, IBERVILLE, POINTE COUPEE, ST. HELENA & WEST FELICIANA PARISHES:		

LABORERS:

GROUP 1	9.50	1.05
GROUP 2	9.60	1.05
GROUP 3	9.65	1.05
GROUP 4	10.23	1.05
GROUP 5	9.98	1.05
GROUP 6	9.90	1.05
GROUP 7	7.21	1.05

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LABORER CLASSIFICATIONS

GROUP 1 - Building & General; Carpenter Tender; Scaffold Building; Handling & Conveying Materials; Handling Steel Pans; Tank Scalers; Mixing & Pouring Concrete; & Deck Hands

GROUP 2 - Scaler Using Boatswain Chair, Safety Belt or Power Tool; Power Tool Operator (Hammer Man, Tamper Man, Concrete Chipper or Cutter, Vibrator, Power Buggy, & Chain Saw Operator); Pipe & Sewer Man (Laying of all types of Pipe, Wiping Joints, Cleaning & Wrapping Pipe, Caulker & Grade Carrier)

GROUP 3 - Mason Tender; Plasterer Tender; Cement Mix (Wet or Dry); Hod Carrier; Mortar Mixer & Cement Mixer (Wet or Dry); Hot Pan Man; Concrete Cutter & Puddler; Asphalt Worker; Well Drilling Tender; Gunite Worker & Pot Tender (Sandblasting)

GROUP 4 - Blaster-Powder Man

GROUP 5 - Blaster-Powder Man Tender

GROUP 6 - Form Setter & Liner, Steel; Nozzle Operator (Gunite or Sandblasting)

GROUP 7 - Cleanup

PAIN0080B 05/15/2001

	Rates	Fringes
ACADIA, ALLEN (Part), BEAUREGARD (Part), CAMERON (Part), EVANGELINE (Part) & JEFFERSON DAVIS (Part) PARISHES:		

GLAZIERS	15.60	2.40
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ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-01-B-0016

PAIN0080D 11/01/2000

	Rates	Fringes
ACADIA (Part), ALLEN, BEAUREGARD, CAMERON, EVANGELINE (Part) & JEFFERSON DAVIS PARISHES:		

PAINTERS	13.94	1.15
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PAIN0080I 04/01/2001

	Rates	Fringes
ASSUMPTION (South of Grand Bayou), LAFOURCHE, PLAQUEMINES, ST. JAMES, ST. MARY (Morgan City Area), TERREBONNE & WASHINGTON PARISHES:		

PAINTERS:

Power Plants, Refineries, Cracking Plants, Tank Farms, Chemical Processing Plants, Missile Plants, Smoke Stacks & Cat Crackers	14.99	3.10
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All Other Commercial Building Work	13.99	3.10
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PAIN0080K 04/01/2000

	Rates	Fringes
BIENVILLE, CALDWELL, CATAHOULA, CLAIBORNE, DE SOTO, EAST CARROLL,  FRANKLIN, GRANT, JACKSON, LA SALLE, LINCOLN, MADISON, MOREHOUSE, NATCHITOCHES, OUACHITA, RED RIVER, RICHLAND, SABINE, TENSAS, UNION, VERNON, WEBSTER, WEST CARROLL & WINN PARISHES:		

PAINTERS	11.00	1.90
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PAIN0728B 05/01/1997

	Rates	Fringes
ACADIA (Part), ASSUMPTION (North of Hwy #22), CONCORDIA, EAST FELICIANA, IBERIA, IBERVILLE, POINTE COUPEE, ST. HELENA, ST. LANDRY (Southern half), ST. MARY (Excluding Morgan City Area), TANGIPAHOA (West of Hwy #51), VERMILION & WEST FELICIANA PARISHES:		

PAINTERS:

Drywall; Taping; Floating; Sheetrock; & Texture	12.90	1.45
Brush; Sandblasting; Spray & Steel	14.65	1.45

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PAIN1244N 03/01/2000

	Rates	Fringes
ALLEN (Part), ASSUMPTION, AVOYELLES, BEAUREGARD (Part), BIENVILLE, CALDWELL, CAMERON (Part), CATAHOULA, CLAIBORNE, CONCORDIA, DE SOTO, EAST CARROLL, EAST FELICIANA, EVANGELINE (Part), FRANKLIN, GRANT, IBERIA, IBERVILLE, JACKSON,		

ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-01-B-0016

JEFFERSON DAVIS (Part), LA SALLE, LAFOURCHE, LINCOLN, MADISON, MOREHOUSE, NATCHITOCHES, OUACHITA, PLAQUEMINES, POINTE COUPEE, RED RIVER, RICHLAND, SABINE, ST. HELENA, ST. JAMES, ST. LANDRY, ST. MARY, TANGIPAHOA, TENSAS, TERREBONNE, UNION, VERMILION, VERNON, WASHINGTON, WEBSTER, WEST CARROLL, WEST FELICIANA & WINN PARISHES:

GLAZIERS	15.20	2.94
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PLAS0483A 05/01/1998

	Rates	Fringes
ASSUMPTION, EAST FELICIANA, IBERVILLE, POINTE COUPEE, ST. HELENA, ST. JAMES, TANGIPAHOA & WEST FELICIANA PARISHES:		

PLASTERERS	15.20
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PLAS0487A 04/01/1998

	Rates	Fringes
ALLEN, AVOYELLES, BEAUREGARD, CAMERON, CATAHOULA, CONCORDIA,		

Page 22 of 28

EVANGELINE, GRANT, JEFFERSON DAVIS, LA SALLE & VERNON PARISHES:

CEMENT MASONS	13.42
PLASTERERS	14.20

PLAS0567A 07/01/1999

	Rates	Fringes
LAFOURCHE, PLAQUEMINES & TERREBONNE PARISHES:		

CEMENT MASONS (Building Foundations only)	14.08	1.68
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PLAS0685A 10/01/1998

	Rates	Fringes
ACADIA, IBERIA, ST. LANDRY, ST. MARY & VERMILION PARISHES:		

CEMENT MASONS	11.00	2.20
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PLAS0685C 07/01/1998

	Rates	Fringes
ACADIA, IBERIA, ST. LANDRY, ST. MARY & VERMILION PARISHES:		

PLASTERERS	14.25	.01
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PLAS0812A 05/01/1998

	Rates	Fringes
ASSUMPTION, EAST FELICIANA, IBERVILLE, POINT COUPEE, ST. HELENA, ST. JAMES, TANGIPAHOA & WEST FELICIANA PARISHES:		

ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-01-B-0016

CEMENT MASONS 13.55

PLAS0903A 05/01/1998

Rates Fringes  
BIENVILLE, CLAIBORNE, DE SOTO, RED RIVER & WEBSTER PARISHES:

CEMENT MASONS 9.65 .85

PLUM0060A 06/01/2001

Rates Fringes  
LAFOURCHE, PLAQUEMINES, ST. JAMES (Eastern part), TANGIPAHOA  
(Cities of Robert, Hammond, Ponchatoula, Tickfaw, Baptist &  
Pumpkin Center) TERREBONNE & WASHINGTON PARISHES:

PIPEFITTERS; PLUMBERS; &  
STEAMFITTERS 19.65 4.56

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\* PLUM0106A 11/01/2000

Rates Fringes  
ACADIA, ALLEN, BEAUREGARD, CAMERON, IBERIA (West of Hwy 31 &  
Hwy 83), JEFFERSON DAVIS, ST. LANDRY & VERMILION PARISHES:

PLUMBERS & STEAMFITTERS 16.53 4.04

PLUM0141A 08/01/2000

Rates Fringes  
BIENVILLE, CLAIBORNE, DE SOTO, RED RIVER, SABINE & WEBSTER  
PARISHES;

NATCHITOCHES & VERNON PARISHES (Northwest of a line drawn from  
Natchitoches to Anacoco through Bellwood & north of Hwy #111  
between Anacoco & Haddens);

WINN PARISH (West of a line drawn from Winnfield to the junction  
of the Parish boundaries of Winn, Bienville & Jackson):

PLUMBERS & PIPEFITTERS 17.90 5.55

PLUM0198A 06/01/2001

Rates Fringes  
ASSUMPTION, EAST FELICIANA, IBERIA (East of Hwy 31 & Hwy 83),  
IBERVILLE, POINTE COUPEE, ST. HELENA, ST. JAMES (Western part),  
ST. MARY, TANGIPAHOA (Excluding Cities of Robert, Hammond,  
Ponchatoula, Tickfaw, Baptist & Pumpkin Center) & WEST FELICIANA  
PARISHES:

ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-01-B-0016

PLUMBERS & STEAMFITTERS	21.00	4.30
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PLUM0247A 05/01/2001

	Rates	Fringes
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AVOYELLES, CATAHOULA, CONCORDIA, EVANGELINE, GRANT, LA SALLE,  
NATCHITOCHES (City limits of Natchitoches, Hwy #6 to Hagewood &  
Hwy #117), & VERNON (Ft. Polk & Hwy #117, south to Leesville)  
PARISHES:

PLUMBERS & STEAMFITTERS:

Work where contract price of the mechanical work is less than \$3,000,000.00	17.20	3.70
Work where contract price of the mechanical work is more than \$3,000,000.00	18.20	3.70

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PLUM0659A 07/01/2001

	Rates	Fringes
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CALDWELL, EAST CARROLL, FRANKLIN, JACKSON, LINCOLN, MADISON,  
MOREHOUSE, OUACHITA, RICHLAND, TENSAS, UNION, WEST CARROLL &

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WINN (North of Hwy #84) PARISHES:

PIPEFITTERS; PLUMBERS; &

STEAMFITTERS	17.00	3.95
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ROOF0059A 07/01/1998

	Rates	Fringes
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BIENVILLE, CLAIBORNE, DE SOTO, NATCHITOCHES, RED RIVER, SABINE  
& WEBSTER PARISHES:

ROOFERS:

Roofers	9.75	.24
Kettlemen	6.50	.24

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ROOF0076A 05/01/1998

	Rates	Fringes
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ALLEN, BEAUREGARD, CAMERON, EVANGELINE, JEFFERSON DAVIS,  
VERMILION & VERNON PARISHES:

ROOFERS	12.90	.20
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ROOF0141A 05/01/1998

	Rates	Fringes
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ASSUMPTION, LAFOURCHE, PLAQUEMINES, ST. JAMES, ST. MARY,  
TERREBONNE & WASHINGTON PARISHES:

ROOFERS	12.00	1.90
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00710 - 24

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ROOF0191A 01/01/1998

	Rates	Fringes
CALDWELL, CATAHOULA, CONCORDIA, EAST CARROLL, FRANKLIN, GRANT, JACKSON, LA SALLE, LINCOLN, MADISON, MOREHOUSE, OUACHITA, RICHLAND, TENSAS, UNION, WEST CARROLL & WINN PARISHES:		
ROOFERS:		
Roofers	12.30	.30
Kettlemen	9.40	.30

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ROOF0317A 10/01/2000

	Rates	Fringes
ACADIA, AVOYELLES, EAST FELICIANA, IBERIA, IBERVILLE, POINTE COUPEE, ST. HELENA, ST. LANDRY, TANGIPAHOA & WEST FELICIANA PARISHES:		
ROOFERS	15.50	2.70

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SFLA0669A 04/01/2001

	Rates	Fringes
SPRINKLER FITTERS	21.52	6.50

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SHEE0011A 05/01/2001

	Rates	Fringes
LAFOURCHE, PLAQUEMINES, ST. JAMES, TERREBONNE & WASHINGTON PARISHES:		
SHEET METAL WORKERS	19.62	5.92

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SHEE0021A 08/01/2000

	Rates	Fringes
ACADIA, ALLEN, ASSUMPTION, BEAUREGARD, CAMERON, EAST FELICIANA,  EVANGELINE, IBERIA, IBERVILLE, JEFFERSON DAVIS, POINTE COUPEE, ST. HELENA, ST. LANDRY, ST. MARY, TANGIPAHOA, VERMILION & WEST FELICIANA PARISHES:		
SHEET METAL WORKERS	19.95	4.52

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SHEE0361A 07/01/2001

	Rates	Fringes
AVOYELLES, BIENVILLE, CALDWELL, CATAHOULA, CLAIBORNE, CONCORDIA, DE SOTO, EAST CARROLL, FRANKLIN, GRANT, JACKSON, LA SALLE, LINCOLN, MADISON, MOREHOUSE, NATCHITOCHES, OUACHITA, RED RIVER, RICHLAND, SABINE, TENSAS, UNION, VERNON, WEBSTER, WEST CARROLL &		



ACCOMPANYING AMENDMENT NO. 0001 TO SOLICITATION NO. DACA63-01-B-0016

WINN PARISHES:

SHEET METAL WORKERS	21.27	5.45
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TEAM0005A 10/04/1998

	Rates	Fringes
ACADIA, ASSUMPTION, EAST FELICIANA, EVANGELINE, IBERIA, IBERVILLE, POINTE COUPEE, ST. HELENA, ST. JAMES, ST. LANDRY, ST. MARY, TANGIPAHOA, VERMILION, WASHINGTON & WEST FELICIANA PARISHES:		

TRUCK DRIVERS:

Pickups	10.98
Fuel	11.35
Over 1 Ton, Up to, but not Including 3 Tons	11.23
3 Tons, Up to, but not Including 5 Tons	11.35
5 Tons & Over, Including, but not limited to Winch, Dempsey, Dumpster, Lowboy, Semi-Trailer, Euclid, Tournapull & Similar Equipment Used for Transporting	

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Material	11.52
Larger Trucks (Carry Capacity of rear Axles 50,000 lbs. & Over	11.65
Winch with "A" Frame when used for transporting material	11.48

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TEAM0270A 11/01/1998

	Rates	Fringes
LAFOURCHE, PLAQUEMINES & TERREBONNE PARISHES:		

TRUCK DRIVERS:

Up to 1 1/2 Tons	12.59
1 1/2 Tons up to, but not including 3 Tons	12.70
3 Tons up to, but not including 5 Tons	12.75
5 Tons & Over	13.01

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TEAM0568A 11/01/1998

	Rates	Fringes
BIENVILLE, CLAIBORNE, DE SOTO, RED RIVER & WEBSTER PARISHES:		

TRUCK DRIVERS:

GROUP 1	9.87
GROUP 2	9.95
GROUP 3	10.20
GROUP 4	10.35

GROUP 5	10.50
GROUP 6	10.70
GROUP 7	11.05

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Pickup; Spotter & Dumper of Dirt, Gravel, Etc.

GROUP 2 - Stake Body; Flat Bed

GROUP 3 - Single Axle Dump & Water Truck; Transit Mix, Up to  
& Including 3 yds.

GROUP 4 - Tandem Axle Dump, Batch & Water Truck over 3 tons;  
Pickup with Trailer

GROUP 5 - Mississippi Wagon, Float, Tractor Trailer; Rubber  
Tired Tractor & Wobble Wheels

GROUP 6 - Euclid; Lowboy; Dempsey Dumpster; Koehring Dump;  
5 Axle Truck; Transit Mix Over 3 yds.

GROUP 7 - Fork Lift

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WELDERS - Receive rate prescribed for craft performing operation  
to which welding is incidental.

Unlisted classifications needed for work not included within  
the scope of the classifications listed may be added after  
award only as provided in the labor standards contract clauses  
(29 CFR 5.5(a)(1)(v)).

In the listing above, the "SU" designation means that rates  
listed under that identifier do not reflect collectively  
bargained wage and fringe benefit rates. Other designations  
indicate unions whose rates have been determined to be  
prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can  
be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a  
position on a wage determination matter
- \* a conformance (additional classification and rate)  
ruling

On survey related matters, initial contact, including requests

for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U. S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

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The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U. S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.

**END OF GENERAL DECISION**

## SECTION 05500

## MISCELLANEOUS METAL

07/97

## AMENDMENT NO. 0001

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## ALUMINUM ASSOCIATION (AA)

AA DAF-45 (1997) Designation System for Aluminum Finishes

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 123/A 123M (1997) Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

ASTM A 500 (1999) Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes

ASTM A 653/A 653M (1999) Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process

ASTM A 924/A 924M (1999) General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process

## AMERICAN WELDING SOCIETY (AWS)

AWS D1.1 (1998) Structural Welding Code - Steel

## COMMERCIAL ITEM DESCRIPTIONS (CID)

CID A-A-344 (Rev B) Lacquer, Clear Gloss, Exterior, Interior

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office

that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

#### SD-02 Shop Drawings

##### Miscellaneous Metal Items.

Detail drawings indicating material thickness, type, grade, and class; dimensions; and construction details. Drawings shall include catalog cuts, erection details, manufacturer's descriptive data and installation instructions, and templates.

### 1.3 GENERAL REQUIREMENTS

The Contractor shall verify all measurements and shall take all field measurements necessary before fabrication. Welding to or on structural steel shall be in accordance with AWS D1.1. Items specified to be galvanized, when practicable and not indicated otherwise, shall be hot-dip galvanized after fabrication. Galvanizing shall be in accordance with ASTM A 123/A 123M, ASTM A 653/A 653M, or ASTM A 924/A 924M, as applicable. Exposed fastenings shall be compatible materials, shall generally match in color and finish, and shall harmonize with the material to which fastenings are applied. Materials and parts necessary to complete each item, even though such work is not definitely shown or specified, shall be included. Poor matching of holes for fasteners shall be cause for rejection. Fastenings shall be concealed where practicable. Thickness of metal and details of assembly and supports shall provide strength and stiffness. Joints exposed to the weather shall be formed to exclude water.

### 1.4 DISSIMILAR MATERIALS

Where dissimilar metals are in contact, or where aluminum is in contact with concrete, mortar, masonry, wet or pressure-treated wood, or absorptive materials subject to wetting, the surfaces shall be protected with a coat of bituminous paint or asphalt varnish.

### 1.5 WORKMANSHIP

Miscellaneous metalwork shall be well formed to shape and size, with sharp lines and angles and true curves. Drilling and punching shall produce clean true lines and surfaces. Welding shall be continuous along the entire area of contact except where tack welding is permitted. Exposed connections of work in place shall not be tack welded. Exposed welds shall be ground smooth. Exposed surfaces of work in place shall have a smooth finish, and unless otherwise approved, exposed riveting shall be flush. Where tight fits are required, joints shall be milled. Corner joints shall be coped or mitered, well formed, and in true alignment. Work shall be accurately set to established lines and elevations and securely fastened in place. Installation shall be in accordance with manufacturer's installation instructions and approved drawings, cuts, and details.

### 1.6 ANCHORAGE

Anchorage shall be provided where necessary for fastening miscellaneous

metal items securely in place. Anchorage not otherwise specified or indicated shall include slotted inserts made to engage with the anchors, expansion shields, and power-driven fasteners when approved for concrete; toggle bolts and through bolts for masonry; machine and carriage bolts for steel; and lag bolts and screws for wood.

#### 1.7 ALUMINUM FINISHES

Unless otherwise specified, aluminum items shall have standard mill finish. The thickness of the coating shall be not less than that specified for protective and decorative type finishes for items used in interior locations or architectural Class I type finish for items used in exterior locations in AA DAF-45. Items to be anodized shall receive a polished satin finish. Aluminum surfaces to be in contact with plaster or concrete during construction shall be protected with a field coat conforming to CID A-A-344.

#### 1.8 SHOP PAINTING

Surfaces of ferrous metal except galvanized surfaces, shall be cleaned and shop coated with the manufacturer's standard protective coating unless otherwise specified. Surfaces of items to be embedded in concrete shall not be painted. Items to be finish painted shall be prepared according to manufacturer's recommendations or as specified.

### PART 2 PRODUCTS

#### 2.1 ACCESS DOORS AND PANELS

Doors and panels shall be flush type unless otherwise indicated. Frames for access doors shall be fabricated of not lighter than [AM#0001] 12 gauge [AM#0001] stainless steel with welded joints and finished with anchorage for securing into construction. Access doors shall be a minimum of [AM#0001] 12 by 12 inches and of not lighter than [AM#0001] 12 gauge steel, with stiffened edges, complete with attachments. Access doors shall be hinged to frame and provided with a flush face, [AM#0001] lockable operated latch. Exposed metal surfaces shall have a shop applied prime coat.

#### 2.2 HANDRAILS

Handrails shall be designed to resist a concentrated load of 200 pounds in any direction at any point of the top of the rail or 20 pounds per foot applied horizontally to top of the rail, whichever is more severe.

##### 2.2.1 Steel Handrails, Including Carbon Steel Inserts

Steel shall be structural tubing conforming to ASTM A 500, Grade A or B of equivalent strength. Steel railings shall be 1-1/2 inch nominal size. Guardrails shall be hot-dip galvanized and shop painted.

- a. Joint posts, rail, and corners shall be fabricated by one of the following methods:

- (1) Flush type rail fittings of commercial standard, welded and

ground smooth with railing splice locks secured with 3/8 inch hexagonal recessed-head setscrews.

(2) Mitered and welded joints by fitting post to top rail and intermediate rail to post, mitering corners, groove welding joints, and grinding smooth. Railing splices shall be butted and reinforced by a tight fitting interior sleeve not less than 6 inches long.

## 2.3 MISCELLANEOUS

Miscellaneous plates and shapes for items that do not form a part of the structural steel framework, such as lintels, sill angles, miscellaneous mountings, and frames, shall be provided to complete the work.

## 2.4 SAFETY NOSING

Safety nosings shall be of cast aluminum with abrasive surface. Nosing shall be 3 inches wide and terminating at not more than 4 inches from the ends of treads, Safety nosings shall be provided with anchors not less than 3/4 inch long. Integrally cast mushroom anchors are not acceptable.

# PART 3 EXECUTION

## 3.1 GENERAL INSTALLATION REQUIREMENTS

All items shall be installed at the locations shown and according to the manufacturer's recommendations. Items listed below require additional procedures as specified.

## 3.2 ATTACHMENT OF GUARDRAILS

Guardrails shall be installed where indicated.

### 3.2.1 Installation of Steel Guardrails

Installation shall be base plates bolted to structural concrete floor slabs. Rail ends shall be secured by lag bolts to existing walls.

-- End of Section --

## SECTION 09900

## PAINTING, GENERAL

07/92

**AMENDMENT NO. 0001**

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS (ACGIH)

ACGIH Limit Values	(1999) Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices
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## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3273	(1994) Resistance to Growth of Mold on the Surface of Interior Coating in an Environmental Chamber
ASTM D 3274	(1995) Evaluating Degree of Surface Disfigurement of Paint Films by Microbial (Fungal or Algal) Growth or Soil and Dirt Accumulation
ASTM D 4214	(1998) Evaluating Degree of Chalking of Exterior Paint Films
ASTM D 4258	(1999) Surface Cleaning Concrete for Coating

## COMMERCIAL ITEM DESCRIPTIONS (CID)

CID A-A-1500	(Rev A; Notice 1) Sealer, Surface (Latex Block Filler)
CID A-A-1632	(Basic) Varnish, Asphalt
CID A-A-2246	(Rev B) Paint, Latex
CID A-A-2247	(Basic) Paint, Latex (Semigloss, Interior)
CID A-A-2248	(Basic) Paint, Latex, (Flat, Interior)
CID A-A-2962	(Rev A) Enamel, Alkyd (Metric)
CID A-A-2994	Primer Coating, Interior, for Walls and



## Wood

## FEDERAL SPECIFICATIONS (FS)

FS TT-C-555 (Rev B; Am 1) Coating, Textured (for  
Interior and Exterior Masonry Surfaces)

## THE SOCIETY FOR PROTECTIVE COATINGS (SSPC)

SSPC Paint 5 (1995) Zinc Dust, Zinc Oxide and Phenolic  
Varnish Paint

SSPC SP 1 (1982) Solvent Cleaning

SSPC SP 2 (1995) Hand Tool Cleaning

SSPC SP 3 (1995) Power Tool Cleaning

SSPC SP 7/NACE 4 (1994) Brush-Off Blast Cleaning

## 1.2 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

## SD-03 Product Data

## Paint

The names, quantity represented, and intended use for the proprietary brands of materials proposed to be substituted for the specified materials when the required quantity of a particular batch is 50 gallons or less.

Mixing and Thinning  
Application

Manufacturer's current printed product description, material safety data sheets (MSDS) and technical data sheets for each coating system. Detailed mixing, thinning and application instructions, minimum and maximum application temperature, and curing and drying times between coats for epoxy, moisture-curing polyurethane, and liquid glaze coatings. Detailed application instructions for textured coatings shall be provided.

## SD-04 Samples

## Moisture-Curing Polyurethane

A complete moisture-curing polyurethane system applied to a panel of the same material as that on which the coating will be applied in the work and for each color specified. The sample panels will be used for quality control in applying the system.

#### Paint

While the material is at the site or source of supply, and at a time agreeable to the Contractor and the Contracting Officer, a 1 quart sample of each color and batch, except for quantities of 50 gallons or less, shall be taken by random selection from the sealed containers by the Contractor in the presence of a representative of the Contracting Officer. The contents of the containers to be samples shall be thoroughly mixed to ensure that the sample is representative. Samples shall be identified by designated name, specification number, manufacturer name and address, batch number, project contract number, intended use, and quantity involved.

#### SD-06 Test Reports

#### Paint

A statement as to the quantity represented and the intended use, plus the following test report for batches in excess of 50 gallons:

a. A test report showing that the proposed batch to be used meets specified requirements:

b. A test report showing that a previous batch of the same formulation as the batch to be used met specified requirements, plus, on the proposed batch to be used, a report of test results for properties of weight per gallon, viscosity, fineness of grind, drying time, color, and gloss.

#### SD-07 Certificates

#### Lead

#### Mildewcide and Insecticide

#### Volatile Organic Compound (VOC) Content

Certificate stating that paints for interior use contain no mercurial mildewcide or insecticide. Certificate stating that paints proposed for use contain not more than 0.06 percent lead by weight of the total nonvolatile. Certificate stating that paints proposed for use meet Federal VOC regulations and those of the local Air Pollution Control Districts having jurisdiction over the geographical area in which the project is located.

### 1.3 PACKAGING, LABELING, AND STORING

Paints shall be in sealed containers that legibly show the designated name, formula or specification number, batch number, color, quantity, date of manufacture, manufacturer's formulation number, manufacturer's directions including any warnings and special precautions, and name of manufacturer. Pigmented paints shall be furnished in containers not larger than 5 gallons.

Paints and thinner shall be stored in accordance with the manufacturer's written directions and as a minimum stored off the ground, under cover, with sufficient ventilation to prevent the buildup of flammable vapors and at temperatures between 40 and 95 degrees F. Paints shall be stored on the project site or segregated at the source of supply sufficiently in advance

of need to allow 30 days for testing.

#### 1.4 APPROVAL OF MATERIALS

When samples are tested, approval of materials will be based on tests of the samples; otherwise, materials will be approved based on test reports furnished with them. If materials are approved based on test reports furnished, samples will be retained by the Government for testing should the materials appear defective during or after application. In addition to any other remedies under the contract the cost of retesting defective materials will be at the Contractor's expense.

#### 1.5 ENVIRONMENTAL CONDITIONS

Unless otherwise recommended by the paint manufacturer, the ambient temperature shall be between 45 and 95 degrees F when applying coatings other than water-thinned, epoxy, and moisture-curing polyurethane coatings.

Water-thinned coatings shall be applied only when ambient temperature is between 50 and 90 degrees F. Epoxy, and moisture-curing polyurethane coatings shall be applied only within the minimum and maximum temperatures recommended by the coating manufacturer. Moisture-curing polyurethane shall not be applied when the relative humidity is below 30 percent.

#### 1.6 SAFETY AND HEALTH

Work shall comply with applicable Federal, State, and local laws and regulations, and with the ACCIDENT PREVENTION PLAN, including the Activity Hazard Analysis as specified in the CONTRACT CLAUSES. The Activity Hazard Analysis shall include analyses of the potential impact of painting operations on painting personnel and on others involved in and adjacent to the work zone.

##### 1.6.1 Worker Exposures

Exposure of workers to hazardous chemical substances shall not exceed limits established by ACGIH Limit Values, or as required by a more stringent applicable regulation.

##### 1.6.2 Toxic Compounds

Toxic products having ineffective physiological warning properties, such as no or low odor or irritation levels, shall not be used unless approved by the Contracting Officer.

##### 1.6.3 Training

Workers having access to an affected work area shall be informed of the contents of the applicable material data safety sheets (MDSS) and shall be informed of potential health and safety hazard and protective controls associated with materials used on the project. An affected work area is one which may receive mists and odors from the painting operations. Workers involved in preparation, painting and clean-up shall be trained in the safe handling and application, and the exposure limit, for each material which the worker will use in the project. Personnel having a need

to use respirators and masks shall be instructed in the use and maintenance of such equipment.

#### 1.6.4 Coordination

Work shall be coordinated to minimize exposure of building occupants, other Contractor personnel, and visitors to mists and odors from preparation, painting and clean-up operations.

### PART 2 PRODUCTS

#### 2.1 PAINT

The term "paint" as used herein includes emulsions, enamels, paints, stains, varnishes, sealers, cement-emulsion filler, and other coatings, whether used as prime, intermediate, or finish coat. Paint shall conform to the requirements listed in the painting schedules at the end of this section, except when the required amount of a material of a particular batch is 50 gallons or less. An approved proprietary paint material may be used. The proprietary paint material shall be of the same type, color, and be equivalent in performance of the type specified in the painting schedules. Equivalent performance shall be within 10 percent of the values for the percent of pigment, the percent of solid content (percent of pigment by weight and the percent of nonvolatile vehicle by weight), the viscosity (in K.U.'s), the gloss and the drying times for set-to-touch, recoating and dry hard. Additional requirements are as follows:

##### 2.1.1 Colors and Tints

Colors shall be as selected from manufacturer's standard colors, as indicated. Manufacturer's standard color is for identification of color only. Tinting of epoxy and urethane paints shall be done by the manufacturer. Stains shall conform in shade to manufacturer's standard color. The color of the undercoats shall vary slightly from the color of the next coat.

##### 2.1.2 Mildewcide and Insecticide

Paint specified for all coats applied to fabrics and vapor barrier jackets over insulation and surfaces in laundry area shall contain a mildewcide that will not adversely affect the color, texture, or durability of the coating. The mildewcide shall be incorporated into the paint by the manufacturer and shall attain a surface disfigurement rating of 8 or greater when tested in accordance with ASTM D 3273 and evaluated in accordance with ASTM D 3274. Mercurial mildewcide shall not be used in interior paint. Insecticides shall not be used in paint.

##### 2.1.3 Lead

Paints containing lead in excess of 0.06 percent by weight of the total nonvolatile content (calculated as lead metal) shall not be used.

##### 2.1.4 Chromium

Paints containing zinc chromate or strontium chromate pigments shall not be used.

#### 2.1.5 Volatile Organic Compound (VOC) Content

Paints shall comply with applicable federal, state and local laws enacted to insure compliance with Federal Clean Air Standards and shall conform to the restrictions of the local air pollution control authority. When the materials specified in the painting schedule do not meet the applicable VOC content limitations, the Contractor shall notify the Contracting Officer prior to commencing the work, informing the Contract Officer of proposed substitute materials. Substitute materials may be proprietary paint materials of the same type, color, and which are equivalent in performance of the types specified in the painting schedule and which meet the VOC content requirements. Equivalent performance shall be as defined in PART 2 paragraph "PAINT". Coatings shall have the date of manufacture clearly marked on each container.

### PART 3 EXECUTION

#### 3.1 PROTECTION OF AREAS NOT TO BE PAINTED

Items not to be painted which are in contact with or adjacent to painted surfaces shall be removed or protected prior to surface preparation and painting operations. Items removed prior to painting shall be replaced when painting is completed. Following completion of painting, workmen skilled in the trades involved shall reinstall removed items. Surfaces contaminated by coating materials shall be restored to original condition.

#### 3.2 SURFACE PREPARATION

Surfaces to be painted shall be clean and free of foreign matter before application of paint or surface treatments. Oil and grease shall be removed with clean cloths and cleaning solvents prior to mechanical cleaning. Cleaning solvents shall be of low toxicity with a flashpoint in excess of 100 degrees F. Cleaning shall be programmed so that dust and other contaminants will not fall on wet, newly painted surfaces. Exposed ferrous metals such as nail heads on or in contact with surfaces to be painted with water-thinned paints, shall be spot-primed with a suitable corrosion-inhibitive primer capable of preventing flash rusting and compatible with the coating specified for the adjacent areas.

##### 3.2.1 Concrete, Stucco and Masonry Surfaces

Concrete, stucco and masonry surfaces shall be allowed to dry at least 30 days before painting, except concrete slab on grade which shall be allowed to cure 90 days before painting. Surfaces shall be cleaned in accordance with ASTM D 4258. Glaze, efflorescence, laitance, dirt, grease, oil, asphalt, surface deposits of free iron and other foreign matter shall be removed prior to painting. Surfaces to receive polyurethane or epoxy coatings shall be acid-etched or mechanically abraded as specified by the coating manufacturer, rinsed with water, allowed to dry, and treated with the manufacturer's recommended conditioner prior to application of the first coat.

### 3.2.2 Ferrous Surfaces

Ferrous surfaces including those that have been shop-coated, shall be solvent-cleaned or detergent-washed in accordance with SSPC SP 1. Surfaces that contain loose rust, loose mill scale, and other foreign substances shall be cleaned mechanically with hand tools according to SSPC SP 2, power tools according to SSPC SP 3 or by sandblasting according to SSPC SP 7/NACE 4. Shop-coated ferrous surfaces shall be protected from corrosion by treating and touching up corroded areas immediately upon detection.

### 3.2.3 Gypsum Board Surfaces

Gypsum board surfaces shall be dry and shall have all loose dirt and dust removed by brushing with a soft brush, rubbing with a cloth, or vacuum-cleaning prior to application of the first-coat material. A damp cloth or sponge may be used if paint will be water-based.

### 3.2.4 Wood Surfaces

Wood surfaces shall be cleaned of foreign matter. Moisture content of the wood shall not exceed 12 percent as measured by a moisture meter, unless otherwise authorized. Wood surfaces adjacent to surfaces to receive water-thinned paints shall be primed and/or touched up before applying water-thinned paints. Small, dry seasoned knots shall be scraped, cleaned, and given a thin coat of commercial knot sealer, before application of the priming coat. Pitch on large, open, unseasoned knots and all other beads or streaks of pitch shall be scraped off, or, if it is still soft, removed with mineral spirits or turpentine, and the resinous area shall be thinly coated with knot sealer. Finishing nails shall be set, and all holes and surface imperfections shall be primed. After priming, holes and imperfections in finish surfaces shall be filled with putty or plastic wood filler, colored to match the finish coat if natural finish is required, allowed to dry, and sanded smooth. Putty or wood filler shall be compatible with subsequent coatings.

### 3.2.5 Previously Painted Surfaces

Previously painted surfaces specified to be repainted damaged during construction shall be thoroughly cleaned of all grease, dirt, dust or other foreign matter. Blistering, cracking, flaking and peeling or other deteriorated coatings shall be removed. Slick surfaces shall be roughened. Damaged areas such as, but not limited to, nail holes, cracks, chips, and spalls shall be repaired with suitable material to match adjacent undamaged areas. Edges of chipped paint shall be feather edged and sanded smooth. Rusty metal surfaces shall be cleaned as per SSPC requirements. Solvent, mechanical, or chemical cleaning methods shall be used to provide surfaces suitable for painting. Chalk shall be removed so that when tested in accordance with ASTM D 4214, the chalk resistance rating is no less than 8. New, proposed coatings shall be compatible with existing coatings. If existing surfaces are glossy, the gloss shall be reduced.

## 3.3 MIXING AND THINNING

When thinning is approved as necessary to suit surface, temperature, weather conditions, or application methods, paints may be thinned in accordance with the manufacturer's directions. When thinning is allowed, paints shall be thinned immediately prior to application with not more than 1 pint of suitable thinner per gallon. The use of thinner shall not relieve the Contractor from obtaining complete hiding, full film thickness, or required gloss. Thinning shall not cause the paint to exceed limits on volatile organic compounds. Paints of different manufacturers shall not be mixed.

#### 3.3.1 Cement-Emulsion Filler Coat

Cement and aggregate shall be dry-mixed so that uniform distribution and intermixing are obtained. Mixing liquid and one-half of the total amount of water shall be premixed and added gradually to the white portland cement and aggregate with constant stirring until a thick, smooth material is obtained. Emulsion paint shall then be added to the mixture and stirred until uniformity is obtained. The blend shall have a thick, creamy consistency. The remainder of the water shall be added if necessary to obtain a material with adequate application properties. Blending resin emulsion or emulsion paint with any other component shall be done with caution; too rapid an agitation will cause air entrapment and foaming.

#### 3.4 APPLICATION

Painting practices shall comply with applicable federal, state and local laws enacted to insure compliance with Federal Clean Air Standards. Unless otherwise specified or recommended by the paint manufacturer, paint may be applied by brush, roller, or spray. At the time of application, paint shall show no signs of deterioration. Uniform suspension of pigments shall be maintained during application. Each coat of paint shall be applied so dry film shall be of uniform thickness and free from runs, drops, ridges, waves, pinholes or other voids, laps, brush marks, and variations in color, texture, and finish. Hiding shall be complete. Rollers for applying paints and enamels shall be of a type designed for the coating to be applied and the surface to be coated. Special attention shall be given to insure that all edges, corners, crevices, welds, and rivets receive a film thickness equal to that of adjacent painted surfaces. Paints, except water-thinned types, shall be applied only to surfaces that are completely free of moisture as determined by sight or touch.

##### 3.4.1 Ventilation

Affected areas shall be ventilated during paint application so that workers exposure to chemical substances shall not exceed limits as established by ACGIH Limit Values, or as required by a more stringent applicable regulation. Interior work zones having a volume of 10,000 cubic feet or less shall be ventilated at a minimum of 2 air exchanges per hour. Ventilation in larger work zones shall be maintained by means of mechanical exhaust. Solvent vapors shall be exhausted outdoors, away from air intakes and workers. Return air inlets in the work zone shall be temporarily sealed before start of work until the coatings have dried.

##### 3.4.2 Respirators

Operators and personnel in the vicinity of operating paint sprayers shall wear respirators.

#### 3.4.3 First Coat

The first coat on plaster, gypsum wallboard, and other surfaces shall include repeated touching up of suction spots or overall application of primer or sealer to produce uniform color and gloss. Excess sealer shall be wiped off after each application. The first coat on both faces of wood doors shall be applied at essentially the same time. Glazed doors and sashes shall be given the specified coating system within 3 weeks of the time they are glazed, but not before the glazing material has set; paint shall overlay glass about 70 mils all around. Each varnish coat shall be sanded lightly prior to application of subsequent coats.

#### 3.4.4 Timing

Surfaces that have been cleaned, pretreated, and otherwise prepared for painting shall be given a coat of the specified first coat as soon as practical after such pretreatment has been completed, but prior to any deterioration of the prepared surface. Sufficient time shall elapse between successive coats to permit proper drying. This period shall be modified as necessary to suit weather conditions. Oil-based or oleoresinous solvent-type paints shall be considered dry for recoating when the paint feels firm, does not deform or feel sticky under moderate pressure of the thumb, and the application of another coat of paint does not cause the undercoat to lift or lose adhesion. Manufacturer's instructions for application, curing and drying time between coats of two-component systems shall be followed.

#### 3.4.5 Fillers

Concrete and masonry surface voids shall be filled; however, surface irregularities need not be completely filled. The dried filler shall be uniform and free of pinholes. Filler shall not be applied over caulking compound.

##### 3.4.5.1 Cement-Emulsion Filler

Immediately before filler application, surfaces shall be dampened uniformly and thoroughly, with no free surface water visible, by several applications of potable water with a fog spray, allowing time between the sprayings for water to be absorbed. Cement-emulsion filler shall be scrubbed into the surface vigorously with a stiff-bristled brush having tampico or palmyra bristles not longer than 2-1/2 inches. At least 24 hours shall elapse before applying exterior emulsion paint over cement-emulsion filler. When the ambient temperature is over 85 degrees F, cement-emulsion filler surfaces shall be dampened lightly with a fog spray of potable water immediately prior to application of the subsequent paint coat.

##### 3.4.5.2 Solvent-Thinned Filler

Solvent-thinned filler, shall be applied to dry surfaces only and may be



applied by brush or roller. Filler shall be allowed to set for 3 to 5 minutes or until the filler becomes tacky, and the excess material shall then be removed with a rubber squeegee. Surface voids shall be filled; however, surface irregularities need not be completely filled.

#### 3.4.5.3 Latex Filler

Latex filler, CID A-A-1500, shall be applied according to the manufacturer's instructions. Surface voids shall be filled and filler shall be allowed to dry the length of time specified by the manufacturer prior to applying successive coats of paint.

#### 3.4.6 Textured Coating

Application of textured coating, FS TT-C-555, shall be as specified in the manufacturer's printed directions at a rate of 45 to 55 square feet per gallon in one coat.

#### 3.4.7 Ferrous-Metal Primer

Primer for ferrous-metal shall be applied to ferrous surfaces to receive paint other than asphalt varnish prior to deterioration of the prepared surface. The semitransparent film applied to some pipes and tubing at the mill is not to be considered a shop coat, but shall be overcoated with the specified ferrous-metal primer prior to application of finish coats.

### 3.5 PIPE COLOR CODE MARKING

Pipes in exposed areas and in accessible pipe spaces shall be provided with color band and titles adjacent to all valves, except those provided at plumbing fixtures, at not more than 40 foot spacing on straight pipe runs, adjacent to change in direction, and on both sides where pipes pass through walls or floors. Color code marking shall be of the color listed in TABLE I and the size listed in TABLE II. The arrows shall be installed adjacent to each band to indicate the direction of flow in the pipe. The legends shall be printed in upper-case block letters as listed in TABLE I. Letter sizes shall be as listed in TABLE II. Marking shall be painted or applied using colored, pressure-sensitive adhesive markers of standard manufacture. Paint shall be as specified for insulated and uninsulated piping.

TABLE I. COLOR CODES FOR MARKING PIPE

Material	Band	Letters and Arrow*	Legend
Cold water (potable)	Green	White	POTABLE WATER
Hot water (domestic)	Green	White	H.W.
Hot water recirculating (domestic)	Green	White	H.W.R.

TABLE II. COLOR CODE MARKING SIZES

Outside Diameter of Pipe Covering (Inches)	Length of Color Band (inches)	Arrow Length x Width (Inches)	Size of Legend Letters and Numerals (Inches)
Less than 1-1/2	8	8 x 2-1/4	1/2
1-1/2 to 2-3/8	8	8 x 2-1/4	3/4
2-1/2 to 7-7/8	12	8 x 2-1/4	1-1/4

### 3.6 MISCELLANEOUS PAINTING

#### 3.6.1 Lettering

Lettering shall be block type, water-type decalcomania, finished or applied using colored, pressure-sensitive adhesive markers of standard manufacture.

### 3.7 SURFACES TO BE PAINTED

Surfaces listed in the painting schedules at the end of this section, other than those listed in paragraph SURFACES NOT TO BE PAINTED, shall be painted as scheduled.

### 3.8 SURFACES NOT TO BE PAINTED

Surfaces in the following areas shall not to be painted: In addition, surfaces of hardware, fittings, and other factory finished items shall not be painted.

- a. Exterior sheet metalwork (except galvanized).
- b. Exterior poured concrete.
- c. Concrete floors.
- d. Exterior and interior aluminum and stainless steel.
- e. Aluminum or galvanized roofing and siding sheets.
- f. Exterior caulking and sealants.
- g. Door and window hardware unless specifically specified to be painted in Section 08700 BUILDERS' HARDWARE.
- h. Sprinkler heads and other fire detection elements.
- i. Safety nosings.
- j. Labels of testing agencies such as Underwriters' Laboratories, Inc.
- k. Interior and exterior signs and cast bronze letters.
- l. Walls and ceilings in crawl spaces.

- m. Unexposed interior ferrous surfacers.
- n. Aluminum or sized vapor barrier jacketing over insulated pipes in unexposed locations that do not require color coding.

### 3.9 CLEANING

Cloths, cotton waste and other debris that might constitute a fire hazard shall be placed in closed metal containers and removed at the end of each day. Upon completion of the work, staging, scaffolding, and containers shall be removed from the site or destroyed in an approved manner. Paint and other deposits on adjacent surfaces shall be removed and the entire job left clean and acceptable.

### 3.10 PAINTING SCHEDULES

The following painting schedules identify the surfaces to be painted and prescribe the paint to be used and the number of coats of paint to be applied. Contractor options are indicated by -----or----- between optional systems or coats.

#### EXTERIOR PAINTING SCHEDULE

<u>Surface</u>	<u>First Coat</u>	<u>Second Coat</u>	<u>Third Coat</u>
Ferrous metal unless otherwise specified	SSPC Paint 5	CID A-A-2962 Type I Class 111 Grade C	CID A-A-2962 Type 1 Class 111 Grade C

## INTERIOR PAINTING SCHEDULE

<u>Surface</u>	<u>First Coat</u>	<u>Second Coat</u>	<u>Third Coat</u>
Plaster, gypsum board, concrete, and concrete masonry units not requiring a smooth finish, unless otherwise specified	CID A-A-2994 Type II		
		CID A-A-2248	CID A-A-2248 on gypsum board faced with recycled paper
Concrete masonry units requiring a smooth finish	CID A-A-1500	CID A-A-2994 Type II	CID A-A-2246
			CID A-A-2247
			CID A-A-2248
Ferrous metals and pipe hangers in concealed damp spaces (crawl space) or in exposed areas having unpainted adjacent surfaces	CID A-A-1632	[AM#0001] <u>CID A-A-1632</u>	None
Wood: unless otherwise specified.	CID A-A-2994 Type I	CID A-A-2246 -----or-----	None

-- End of Section --

SECTION 13850

FIRE DETECTION AND ALARM SYSTEM, DIRECT CURRENT LOOP

08/98

AMENDMENT NO. 0001

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI S3.41 (1990; R 1996) Audible Emergency  
Evacuation Signal

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 (1999) National Electrical Code

NFPA 72 (1996; Errata Oct 96, Dec 96; TIA 96-1,  
96-2, 96-3) National Fire Alarm Code

NFPA 90A (1996) Installation of Air Conditioning  
and Ventilating Systems

UNDERWRITERS LABORATORIES (UL)

UL 6 (1997) Rigid Metal Conduit

UL 38 (1994; Rev Nov 1994) ) Manually Actuated  
Signaling Boxes for Use with  
Fire-Protective Signaling Systems

UL 268 (1996; Rev thru Jun 1998) Smoke Detectors  
for Fire Protective Signaling Systems

UL 268A (1998) Smoke Detectors for Duct  
Applications

UL 464 (1996; Rev May 1997) Audible Signal  
Appliances

UL 521 (1993; Rev Oct 1994) Heat Detectors for  
Fire Protective Signaling Systems

UL 797 (1993; Rev thru Mar 1997) Electrical  
Metallic Tubing

UL 1242	(1996; Rev Mar 1998) Intermediate Metal Conduit
UL 1971	(1995; Rev thru May 1997) Signaling Devices for the Hearing Impaired

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

### SD-02 Shop Drawings

#### Fire Alarm Reporting System; G

Detail drawings, prepared and signed by a Registered Professional Engineer or a NICET Level 3 Fire Alarm Technician, consisting of a complete list of equipment and material, including manufacturer's descriptive and technical literature, catalog cuts, and installation instructions. Note that the contract drawings show layouts based on typical detectors. The Contractor shall check the layout based on the actual detectors to be installed and make any necessary revisions in the detail drawings. The detail drawings shall also contain complete wiring and schematic diagrams for the equipment furnished, equipment layout, and any other details required to demonstrate that the system has been coordinated and will properly function as a unit. Detailed point-to-point wiring diagram shall be prepared and signed by a Registered Professional Engineer or a NICET Level 3 Fire Alarm Technician showing points of connection. Diagram shall include connections between system devices, appliances, control panels, supervised devices, and equipment that is activated or controlled by the panel.

### SD-03 Product Data

#### Storage Batteries

Substantiating battery calculations for supervisory and alarm power requirements. Ampere-hour requirements for each system component and each panel component, and the battery recharging period shall be included.

#### Voltage Drop; G

Voltage drop calculations for notification appliance circuits to indicate that sufficient voltage is available for proper appliance operation.

#### Spare Parts

Spare parts data for each different item of material and equipment specified, not later than 3 months prior to the date of beneficial occupancy. Data shall include a complete list of parts and supplies with the current unit prices and source of supply and a list of the parts recommended by the manufacturer to be replaced after 1 year of service.

Technical Data and Computer Software; G

Technical data which relates to computer software.

Training

Lesson plans, operating instructions, maintenance procedures, and training data, furnished in manual format, for the training courses. The operations training shall familiarize designated government personnel with proper operation of the fire alarm system. The maintenance training course shall provide the designated government personnel adequate knowledge required to diagnose, repair, maintain, and expand functions inherent to the system.

Testing; G

Detailed test procedures, prepared and signed by a Registered Professional Engineer or a NICET Level 3 Fire Alarm Technician, for the fire detection and alarm system 60 days prior to performing system tests.

SD-06 Test Reports

Testing

Test reports, in booklet form, showing field tests performed to prove compliance with the specified performance criteria, upon completion and testing of the installed system. Each test report shall document readings, test results and indicate the final position of controls. The Contractor shall include the NFPA 72 Certificate of Completion and NFPA 72 Inspection and Testing Form, with the appropriate test reports.

SD-07 Certificates

Equipment; G

Certified copies of current approvals or listings issued by an independent test lab if not listed by UL, FM or other nationally recognized testing laboratory, showing compliance with specified NFPA standards.

Qualifications; G

Proof of qualifications for required personnel. The installer shall submit proof of experience for the Professional Engineer, fire alarm technician, and the installing company.

SD-10 Operation and Maintenance Data

Technical Data and Computer Software

Six copies of operating instructions outlining step-by-step procedures required for system startup, operation, and shutdown. The instructions shall include the manufacturer's name, model number, service manual, parts list, and complete description of equipment and their basic operating features. Six copies of maintenance instructions listing routine

maintenance procedures, possible breakdowns and repairs, and troubleshooting guide. The instructions shall include conduit layout, equipment layout and simplified wiring, and control diagrams of the system as installed. The instructions shall include the information provided in paragraph TECHNICAL DATA AND COMPUTER SOFTWARE. The instructions shall include complete procedures for system revision and expansion, detailing both equipment and software requirements. Original and backup copies of all software delivered for this project shall be provided, on each type of media utilized. Instructions shall be approved prior to training.

### 1.3 GENERAL REQUIREMENTS

#### 1.3.1 Standard Products

Material and equipment shall be the standard products of a manufacturer regularly engaged in the manufacture of the products for at least 2 years prior to bid opening. Equipment shall be supported by a service organization that can provide service within 24 hours of notification.

#### 1.3.2 Nameplates

Major components of equipment shall have the manufacturer's name, address, type or style, voltage and current rating, and catalog number on a noncorrosive and nonheat-sensitive plate which is securely attached to the equipment.

#### 1.3.3 Keys and Locks

Locks shall be keyed alike. Four keys for the system shall be provided.

#### 1.3.4 Tags

Tags with stamped identification number shall be furnished for keys and locks.

#### 1.3.5 Verification of Dimensions

After becoming familiar with details of the work, the Contractor shall verify dimensions in the field and shall advise the Contracting Officer of any discrepancy before performing the work.

#### 1.3.6 Compliance

The fire detection and alarm system and the central reporting system shall be configured in accordance with NFPA 72; exceptions are acceptable as directed by the Contracting Officer. The equipment furnished shall be compatible and be UL listed, FM approved, or approved or listed by a nationally recognized testing laboratory in accordance with the applicable NFPA standards.

#### 1.3.7 Qualifications

##### 1.3.7.1 Engineer and Technician



a. Registered Professional Engineer with verification of experience and at least 4 years of current experience in the design of the fire protection and detection systems.

b. National Institute for Certification in Engineering Technologies (NICET) qualifications as an engineering technician in fire alarm systems program with verification of experience and current NICET certificate.

c. The Registered Professional Engineer may perform all required items under this specification. The NICET Fire Alarm Technician shall perform only the items allowed by the specific category of certification held.

#### 1.3.7.2 Installer

The installing Contractor shall provide the following: NICET Fire Alarm Technicians to perform the installation of the system. A NICET Level 3 Fire Alarm Technician shall supervise the installation of the fire alarm system. NICET Level 2 or higher Fire Alarm Technician shall install and terminate fire alarm devices, cabinets and panels. An electrician or NICET Level 1 Fire Alarm Technician shall install conduit for the fire alarm system. The Fire Alarm technicians installing the equipment shall be factory trained in the installation, adjustment, testing, and operation of the equipment specified herein and on the drawings.

#### 1.3.7.3 Design Services

Installations requiring designs or modifications of fire detection, fire alarm, or fire suppression systems shall require the services and review of a qualified fire protection engineer. For the purposes of meeting this requirement, a qualified fire protection engineer is defined as an individual meeting one of the following conditions:

- a. An engineer having a Bachelor of Science or Masters of Science Degree in Fire Protection Engineering from an accredited university engineering program, plus a minimum of 2 years' work experience in fire protection engineering.
- b. A registered professional engineer (P.E.) in fire protection engineering.
- c. A registered PE in a related engineering discipline and member grade status in the National Society of Fire Protection Engineers.
- d. An engineer with a minimum of 10 years' experience in fire protection engineering and member grade status in the National Society of Fire Protection Engineers

#### 1.4 SYSTEM DESIGN

##### 1.4.1 Operation

The fire alarm and detection system shall be a complete, supervised fire alarm reporting system. The system shall be activated into the alarm mode

by actuation of any alarm initiating device. The system shall remain in the alarm mode until the initiating device is reset and the fire alarm control panel is reset and restored to normal. Alarm initiating devices shall be connected to initiating device circuits (IDC), Style D, in accordance with NFPA 72. Alarm notification appliances shall be connected to notification appliance circuits (NAC), Style Z in accordance with NFPA 72.

A looped conduit system shall be provided so that if the conduit and all conductors within are severed at any point, all IDC, or NAC will remain functional. The conduit loop requirement is not applicable to the signal transmission link from the local panels (at the protected premises) to the Supervising Station (fire station, fire alarm central communication center). Textual, audible, and visual appliances and systems shall comply with NFPA 72. Fire alarm system components requiring power, except for the control panel power supply, shall operate on 24 Volts dc.

#### 1.4.2 Operational Features

The system shall have the following operating features:

- a. Monitor electrical supervision of alarm IDC and NAC. [AM#0001] Heat detectors shall have combined alarm initiating and power circuits.
- b. Monitor electrical supervision of the primary power (ac) supply, battery voltage, placement of alarm zone module (card, PC board) within the control panel, and transmitter tripping circuit integrity.
- c. A trouble buzzer and trouble light emitting diode (LED) to activate upon a single break, open, or ground fault condition which prevents the required normal operation of the system. The trouble signal shall also operate upon loss of primary power (ac) supply, low battery voltage, removal of alarm zone module (card, PC board), and disconnection of the circuit used for transmitting alarm signals off-premises. A trouble alarm silence switch shall be provided which will silence the trouble buzzer, but will not extinguish the trouble indicator LED. Subsequent trouble and supervisory alarms shall sound the trouble signal until silenced. After the system returns to normal operating conditions, the trouble buzzer shall again sound until the silencing switch returns to normal position, unless automatic trouble reset is provided.
- d. A one person test mode. Activating an initiating device in this mode will activate an alarm for a short period of time, then automatically reset the alarm, without activating the transmitter during the entire process.
- e. A transmitter disconnect switch to allow testing and maintenance of the system without activating the transmitter but providing a trouble signal when disconnected and a restoration signal when reconnected.
- f. Evacuation alarm silencing switch which, when activated, will silence alarm devices, but will not affect the zone indicating

LED/LCD nor the operation of the transmitter. This switch shall be over-ridden upon activation of a subsequent alarm from an unalarmed zone and the NAC devices will be activated.

- g. Electrical supervision for circuits used for supervisory signal services (i.e., sprinkler systems, valves, etc.). Supervision shall detect any open, short, or ground.
- h. Confirmation or verification modules for smoke detection initiating circuits. The modules shall interrupt the transmission of an alarm signal to the system control panel for a factory preset period. This interruption period shall be adjustable from 1 to 60 seconds and be factory set at 20 seconds. Immediately following the interruption period, a confirmation period shall be in effect during which time an alarm signal, if present, will be sent immediately to the control panel. Fire alarm devices, other than smoke detectors, will be prohibited on circuits controlled by confirmation or verification modules.
- i. The fire alarm control panel shall provide supervised relays for HVAC shutdown. An override at the HVAC panel shall not be provided.
- j. Provide one person test mode - Activating an initiating device in this mode will activate an alarm for a short period of time, then automatically reset the alarm, without activating the transmitter during the entire process.
- k. The fire alarm control panel shall provide the required monitoring and supervised control outputs needed to accomplish elevator recall.
- l. The fire alarm control panel shall provide the required modules to monitor and control the fire sprinkler system, or other fire protection extinguishing system.
- m. Zones for alarm IDC and NAC shall be arranged as indicated on the contract drawings.
- n. The fire alarm control panel shall be readily capable of future expansion and modification by qualified technicians. Examples of required changes are: adding or deleting devices or zones; changing system responses to particular input signals; programming certain input signals to activate auxiliary devices.

#### 1.4.3 Alarm Functions

An alarm condition on a circuit shall automatically initiate the following functions:

- a. Transmission of signals over the station radio fire reporting system. The signal shall be common for all zones.
- b. Visual indications of the alarmed zones on the fire alarm control

panel annunciator.

- c. Continuous sounding or operation of alarm notification appliances throughout the building as required by ANSI S3.41.
- d. [AM#0001] DELETED
- e. [AM#0001] DELETED
- f. [AM#0001] DELETED

#### 1.4.4 Primary Power

Operating power shall be provided as required by paragraph Power Supply for the System. Transfer from normal to emergency power or restoration from emergency to normal power shall be fully automatic and not cause transmission of a false alarm. Loss of ac power shall not prevent transmission of a signal via the fire reporting system upon operation of any initiating circuit.

#### 1.4.5 Battery Backup Power

Battery backup power shall be through use of rechargeable, sealed-type storage batteries and battery charger.

#### 1.4.6 Interface With Existing Fire Alarm Equipment

The equipment specified herein shall operate as an extension to an existing Simplex 4208 fire control panel. The new equipment shall be connected to an existing Simplex 4208 control panel in the existing electrical room. Existing control equipment shall be expanded, modified, or supplemented as necessary to extend the existing control functions to the new points or zones. New components shall be capable of merging with the existing configuration without degrading the performance of either system. The scope of the acceptance tests of paragraph Testing shall include aspects of operation that involve combined use of both new and existing portions of the final configuration.

#### 1.4.7 [AM#0001] DELETED

### 1.5 TECHNICAL DATA AND COMPUTER SOFTWARE

Technical data and computer software (meaning technical data which relates to computer software) which is specifically identified in this project, and which may be defined/required in other specifications, shall be delivered in accordance with the CONTRACT CLAUSES, and in accordance with the Contract Data Requirements List, DD Form 1423. Data delivered shall be identified by reference to the particular specification paragraph against which it is furnished. Data to be submitted shall include complete system, equipment, and software descriptions. Descriptions shall show how the equipment will operate as a system to meet the performance requirements of this contract. The data package shall also include the following:

- (1) Identification of programmable portions of system equipment and

capabilities.

(2) Description of system revision and expansion capabilities and methods of implementation detailing both equipment and software requirements.

(3) Provision of operational software data on all modes of programmable portions of the fire alarm and detection system.

(4) Description of Fire Alarm Control Panel equipment operation.

(5) Description of auxiliary and remote equipment operations.

(6) Library of application software.

(7) Operation and maintenance manuals described under SD-19 in the SUBMITTALS paragraph.

#### 1.6 DELIVERY AND STORAGE

Equipment delivered and placed in storage shall be stored with protection from the weather, humidity and temperature variation, dirt, dust, and any other contaminants.

### PART 2 PRODUCTS

#### 2.1 CONTROL PANEL

[AM#0001] The control panel is an existing Simplex 4208 control panel in the existing Electrical Room.

##### 2.1.1 Remote System Trouble Audible/Visual Appliance

Audible appliance shall have a minimum sound level output rating of 85 dBA at 10 feet and operate in conjunction with the panel's integral trouble signal. The audible device shall be silenced by the system trouble silence switch located at the remote location, but shall not extinguish the visual indicator. A rigid plastic, phenolic or metal identification sign which reads "Fire Alarm System Trouble" shall be provided at the audible appliance. The visual appliance located with the audible appliance shall not be extinguished until the trouble has been cleared.

##### 2.1.2 Circuit Connections

Circuit conductors entering or leaving the panel shall be connected to screw-type terminals with each conductor and terminal marked for identification.

##### 2.1.3 System Expansion and Modification Capabilities

Any equipment and software needed by qualified technicians to implement future changes to the fire alarm system shall be provided as part of this contract.

## 2.2 STORAGE BATTERIES

Storage batteries shall be provided and shall be 24 Vdc sealed, lead-calcium type requiring no additional water. The batteries shall have ample capacity, with primary power disconnected, to operate the fire alarm system for a period of 72 hours. Following this period of battery operation, the batteries shall have ample capacity to operate all components of the system, including all alarm signaling devices in the total alarm mode for a minimum period of 15 minutes. Batteries shall be located at the bottom of the panel. Batteries shall be provided with overcurrent protection in accordance with NFPA 72. Separate battery cabinets shall have a lockable, hinged cover similar to the fire alarm panel. The lock shall be keyed the same as the fire alarm control panel.

## 2.3 BATTERY CHARGER

Battery charger shall be completely automatic, 24 Vdc with high/low charging rate, capable of restoring the batteries from full discharge (18 Volts dc) to full charge within 48 hours. A pilot light indicating when batteries are manually placed on a high rate of charge shall be provided as part of the unit assembly, if a high rate switch is provided. Charger shall be located in control panel cabinet or in a separate battery cabinet.

## 2.4 MANUAL FIRE ALARM STATIONS

Manual fire alarm stations shall conform to the applicable requirements of UL 38. Manual stations shall be connected into signal line circuits. Stations shall be installed on surface mounted outlet boxes. Manual stations shall be mounted at 48 inches. Stations shall be double action type. Stations shall be finished in red, with raised letter operating instructions of contrasting color. Stations requiring the breaking of glass or plastic panels for operation are not acceptable. Stations employing glass rods are not acceptable. The use of a key or wrench shall be required to reset the station. Gravity or mercury switches are not acceptable. Switches and contacts shall be rated for the voltage and current upon which they operate. Stations shall have a separate screw terminal for each conductor. Surface mounted boxes shall be matched and painted the same color as the fire alarm manual stations.

## 2.5 FIRE DETECTING DEVICES

Fire detecting devices shall comply with the applicable requirements of NFPA 72, NFPA 90A, UL 268, UL 268A, and UL 521. The detectors shall be provided as indicated. Detector base shall have screw terminals for making connections. No solder connections will be allowed. [AM#0001] \_\_\_\_\_. Installed devices shall conform to the NFPA 70 hazard classification of the area where devices are to be installed.

### 2.5.1 Heat Detectors

Heat detectors shall be designed for detection of fire by combination fixed temperature and rate-of-rise principle. Heat detector spacing shall be rated in accordance with UL 521. Detectors located in areas subject to moisture, exterior atmospheric conditions, or hazardous locations as

defined by NFPA 70, shall be types approved for such locations. Heat detectors located in attic spaces or similar concealed spaces below the roof shall be intermediate temperature rated.

#### 2.5.1.1 Combination Fixed-Temperature and Rate-of-Rise Detectors

Detectors shall be designed for surface outlet box mounting and supported independently of wiring connections. Contacts shall be self-resetting after response to rate-of-rise principle. Under fixed temperature actuation, the detector shall have a permanent external indication which is readily visible. Detector units located in boiler rooms, showers, or other areas subject to abnormal temperature changes shall operate on fixed temperature principle only. The UL 521 test rating for the fixed temperature portion shall be 135 degrees F.. The UL 521 test rating for the Rate-of-Rise detectors shall be rated for 50 by 50 ft.

#### 2.5.2 Smoke Detectors

Smoke detectors shall be designed for detection of abnormal smoke densities. Smoke detectors shall be photoelectric type. Detectors shall contain a visible indicator LED that shows when the unit is in alarm condition. Detectors shall not be adversely affected by vibration or pressure. Detectors shall be the plug-in type in which the detector base contains terminals for making wiring connections. [AM#0001] \_\_\_\_.

##### 2.5.2.1 Photoelectric Detectors

Detectors shall operate on a light scattering concept using an LED light source. Failure of the LED shall not cause an alarm condition. Detectors shall be factory set for sensitivity and shall require no field adjustments of any kind. Detectors shall have an obscuration rating in accordance with UL 268.

##### 2.5.3 [AM#0001] DELETED

#### 2.6 NOTIFICATION APPLIANCES

Audible appliances shall conform to the applicable requirements of UL 464. Devices shall be connected into notification appliance circuits. Devices shall have a separate screw terminal for each conductor. Audible appliances shall generate a unique audible sound from other devices provided in the building and surrounding area. Surface mounted audible appliances shall be painted red. Recessed audible appliances shall be installed with a grill that is painted red .

##### 2.6.1 Alarm Bells

Bells shall be surface mounted with the matching mounting back box surface mounted. Bells shall be suitable for use in an electrically supervised circuit. Bells shall be the underdome type producing a minimum output rating of 85 dBA at 10 feet. Bells used in exterior locations shall be specifically listed or approved for outdoor use and be provided with metal housing and protective grilles. Single stroke, electrically operated, supervised, solenoid bells shall be used for coded applications.

## 2.6.2 Visual Notification Appliances

Visual notification appliances shall conform to the applicable requirements of UL 1971. Appliances shall have clear high intensity optic lens, xenon flash tubes, and output white light. Strobe flash rate shall be between 1 to 3 flashes per second and a minimum of 75 candela. Strobe shall be surface mounted.

## 2.6.3 [AM#0001] DELETED

## 2.7 FIRE DETECTION AND ALARM SYSTEM PERIPHERAL EQUIPMENT

### 2.7.1 [AM#0001] DELETED

### 2.7.2 Conduit

Conduit and fittings shall comply with UL 6, UL 1242 and UL 797.

### 2.7.3 Wiring

Wiring shall conform to NFPA 70. Wiring for 120 Vac power shall be No. 12 AWG minimum. Wiring for Fire Alarm circuits shall be No. 18 AWG minimum. Voltages shall not be mixed in any junction box, housing, or device, except those containing power supplies and control relays. Wiring shall conform to NFPA 70. System field wiring shall be solid copper and installed in metallic conduit or electrical metallic tubing, except rigid plastic conduit may be used under slab-on-grade. Conductors shall be color coded. Conductors used for the same functions shall be similarly color coded. Wiring code color shall remain uniform throughout the circuit. Pigtail or T-tap connections to initiating device circuits, supervisory alarm circuits, and notification appliance circuits are prohibited.

### 2.7.4 Special Tools and Spare Parts

Software, connecting cables and proprietary equipment, necessary for the maintenance, testing, and reprogramming of the equipment shall be furnished to the Contracting Officer. Two spare fuses of each type and size required shall be furnished. Two percent of the total number of each different type of detector, but no less than two each, shall be furnished. Spare fuses shall be mounted in the fire alarm panel.

## PART 3 EXECUTION

### 3.1 INSTALLATION

All work shall be installed as shown and in accordance with the manufacturer's diagrams and recommendations, unless otherwise specified. Smoke detectors shall not be installed until construction is essentially complete and the building has been thoroughly cleaned.

#### 3.1.1 [AM#0001] DELETED

#### 3.1.2 Wiring



Conduit size for wiring shall be in accordance with NFPA 70. Wiring for the fire alarm system shall not be installed in conduits, junction boxes, or outlet boxes with conductors of lighting and power systems. Not more than two conductors shall be installed under any device screw terminal. The wires under the screw terminal shall be straight when placed under the terminal then clamped in place under the screw terminal. The wires shall be broken and not twisted around the terminal. Circuit conductors entering or leaving any mounting box, outlet box enclosure, or cabinet shall be connected to screw terminals with each terminal and conductor marked in accordance with the wiring diagram. Connections and splices shall be made using screw terminal blocks. The use of wire nut type connectors in the system is prohibited. Wiring within any control equipment shall be readily accessible without removing any component parts. The fire alarm equipment manufacturer's representative shall be present for the connection of wiring to the control panel.

#### 3.1.3 [AM#0001] DELETED

#### 3.1.4 Detectors

Detectors shall be located and installed in accordance with NFPA 72. Detectors shall be connected into signal line circuits or initiating device circuits as indicated on the drawings. Detectors shall be at least 12 inches from any part of any lighting fixture. Detectors shall be located at least 3 feet from diffusers of air handling systems. Each detector shall be provided with appropriate mounting hardware as required by its mounting location. Detectors which mount in open space shall be mounted directly to the end of the stubbed down rigid conduit drop. Conduit drops shall be firmly secured to minimize detector sway. Where length of conduit drop from ceiling or wall surface exceeds 3 feet, sway bracing shall be provided. Detectors installed in concealed locations (above ceiling, raised floors, etc.) shall have a remote visible indicator LED/LCD in a finished, visible location.

#### 3.1.5 Notification Appliances

Notification appliances shall be mounted 80 inches above the finished floor or 6 inches below the ceiling, whichever is lower.

#### 3.1.6 Annunciator Equipment

Annunciator equipment shall be mounted where indicated on the drawings.

#### 3.2 [AM#0001] DELETED

#### 3.3 GROUNDING

Grounding shall be provided by connecting to building ground system.

#### 3.4 SUPERVISING STATION PROVISIONS

##### 3.4.1 Revisions to Existing Facilities

Existing supervising components shall be modified as indicated on the drawings and programming shall be updated if required to accommodate the revised configuration. Acceptance testing shall include procedures that would demonstrate that operation of existing equipment has not been degraded and that the revised configuration plus interfacing components operate compatibly with the new fire alarm system at the protected premises. Work on existing equipment shall be performed in accordance with the manufacturer's instructions or under supervision of the manufacturer's representative.

#### 3.4.2 Additions to Existing Facilities

Supplemental components shall be added to the existing supervising equipment as indicated on the drawings. All present functions shall be extended, including recording and storage in memory, and programming shall be updated if required to accommodate the revised configuration. Acceptance testing shall include procedures that would demonstrate that operation of existing equipment has not been degraded and that the expanded configuration operates compatibly with the new fire alarm system.

### 3.5 TESTING

The Contractor shall notify the Contracting Officer at least 10 days before the preliminary and acceptance tests are to be conducted. The tests shall be performed in accordance with the approved test procedures in the presence of the Contracting Officer. The control panel manufacturer's representative shall be present to supervise tests. The Contractor shall furnish instruments and personnel required for the tests.

#### 3.5.1 Preliminary Tests

Upon completion of the installation, the system shall be subjected to functional and operational performance tests including tests of each installed initiating and notification appliance, when required. Tests shall include the meggering of system conductors to determine that the system is free from grounded, shorted, or open circuits. The megger test shall be conducted prior to the installation of fire alarm equipment. If deficiencies are found, corrections shall be made and the system shall be retested to assure that it is functional. After completing the preliminary testing the Contractor shall complete and submit the NFPA 72, Certificate of Completion.

#### 3.5.2 Acceptance Test

Acceptance testing shall not be performed until the Contractor has completed and submitted the Certificate of Completion. Testing shall be in accordance with NFPA 72. The recommended tests in NFPA 72 shall be considered mandatory and shall verify that previous deficiencies have been corrected. The Contractor shall complete and submit the NFPA 72, Inspection and Testing Form. The test shall include all requirements of NFPA 72 and the following:

- a. Test of each function of the control panel.

- b. Test of each circuit in both trouble and normal modes.
- c. Tests of each alarm initiating devices in both normal and trouble conditions.
- d. Tests of each control circuit and device.
- e. Tests of each alarm notification appliance.
- f. Tests of the battery charger and batteries.
- g. Complete operational tests under emergency power supply.
- h. Visual inspection of wiring connections.
- i. Opening the circuit at each alarm initiating device and notification appliance to test the wiring supervisory feature.
- j. Ground fault.
- k. Short circuit faults.
- l. Stray voltage.
- m. Loop resistance.

### 3.6 TRAINING

Training course shall be provided for the operations and maintenance staff. The course shall be conducted in the building where the system is installed or as designated by the Contracting Officer. The training period for systems operation shall consist of 1 training days (8 hours per day) and shall start after the system is functionally completed but prior to final acceptance tests. The training period for systems maintenance shall consist of 2 training days (8 hours per day) and shall start after the system is functionally completed but prior to final acceptance tests. The instructions shall cover items contained in the operating and maintenance instructions. In addition, training shall be provided on performance of expansions or modifications to the fire detection and alarm system. The training period for system expansions and modifications shall consist of at least 1 training days (8 hours per day) and shall start after the system is functionally completed but prior to final acceptance tests.

-- End of Section --

## SECTION 16415

## ELECTRICAL WORK, INTERIOR

08/96

AMENDMENT NO. 0001

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI C78.1	(1991; C78.1a; R 1996) Fluorescent Lamps - Rapid-Start Types - Dimensional and Electrical Characteristics
ANSI C78.1350	(1990) 400-Watt, 100-Volt, S51 Single-Ended High-Pressure Sodium Lamps
ANSI C78.1351	(1989) 250-Watt, 100-Volt S50 Single-Ended High-Pressure Sodium Lamps
ANSI C78.1352	(1990) 1000-Watt, 250-Volt, S52 Single-Ended High-Pressure Sodium Lamps
ANSI C78.1355	(1989) 150-Watt, 55-Volt S55 High-Pressure Sodium Lamps
ANSI C78.1375	(1996) 400-Watt, M59 Single-Ended Metal-Halide lamps
ANSI C78.1376	(1996) 1000-Watt, M47 Single-Ended Metal-Halide Lamps
ANSI C78.2A	(1991) 18 & 26- Watt, Compact Fluorescent Quad Tube Lamps
ANSI C78.2B	(1992) 9 & 13-Watt, Compact Fluorescent Quad Tube Lamps
ANSI C82.1	(1997) Specifications for Fluorescent Lamp Ballasts
ANSI C82.4	(1992) Ballasts for High-Intensity-Discharge and Low-Pressure Sodium Lamps (Multiple-Supply Type)

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM B 1	(1995) Hard-Drawn Copper Wire
ASTM B 8	(1999) Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
ASTM D 709	(1992; R 1997) Laminated Thermosetting Materials

## CODE OF FEDERAL REGULATIONS (CFR)

47 CFR 18	Industrial, Scientific, and Medical Equipment
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## INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE C62.41	(1991; R 1995) Surge Voltages in Low-Voltage AC Power Circuits
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## NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA OS 1	(1996) Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports
NEMA WD 1	(1983; R 1989) General Requirements for Wiring Devices
NEMA WD 6	(1988) Wiring Devices - Dimensional Requirements

## NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(1999) National Electrical Code
NFPA 101	(1997; Errata 97-1; TIA-97-1) Life Safety Code

## UNDERWRITERS LABORATORIES (UL)

UL 1	(1993; Rev thru Jan 1995) Flexible Metal Conduit
UL 5	(1996) Surface Metal Raceways and Fittings
UL 6	(1997) Rigid Metal Conduit
UL 20	(1995; Rev thru Oct 1998) General-Use Snap Switches
UL 83	(1998) Thermoplastic-Insulated Wires and Cables
UL 98	(1994; R thru Jun 1998) Enclosed and Dead-Front Switches

UL 360	(1996; Rev thru Oct 1997) Liquid-Tight Flexible Steel Conduit
UL 467	(1993; Rev thru Aug 1996) Grounding and Bonding Equipment
UL 486A	(1997; Rev thru Dec 1998) Wire Connectors and Soldering Lugs for Use with Copper Conductors
UL 486C	(1997; Rev thru Aug 1998) Splicing Wire Connectors
UL 498	(1996; Rev thru Sep 1998) Attachment Plugs and Receptacles
UL 510	(1994; Rev thru Apr 1998) Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape
UL 514A	(1996; Rev Jul 1998) Metallic Outlet Boxes
UL 514B	(1997; Rev Oct 1998) Fittings for Cable and Conduit
UL 542	(1994; Rev thru Jul 1998) Lampholders, Starters, and Starter Holders for Fluorescent Lamps
UL 797	(1993; Rev thru Mar 1997) Electrical Metallic Tubing
UL 943	(1993; Rev thru May 1998) Ground-Fault Circuit-Interrupters
UL 1029	(1994; Rev thru Dec 1997) High-Intensity-Discharge Lamp Ballasts
UL 1570	(1995; Rev thru Jun 1997) Fluorescent Lighting Fixtures
UL 1572	(1995; Rev thru Jun 1997) High Intensity Discharge Lighting Fixtures
UL 1660	(1994; Rev Apr 1998) Liquid-Tight Flexible Nonmetallic Conduit
UL Elec Const Dir	(1998) Electrical Construction Equipment Directory

## 1.2 GENERAL

### 1.2.1 Rules

The installation shall conform to the requirements of NFPA 70 and NFPA 101, unless more stringent requirements are indicated or shown.

#### 1.2.2 Coordination

The drawings indicate the extent and the general location and arrangement of equipment, conduit, and wiring. The Contractor shall become familiar with all details of the work and verify all dimensions in the field so that the outlets and equipment shall be properly located and readily accessible.

Lighting fixtures, outlets, and other equipment and materials shall be carefully coordinated with mechanical or structural features prior to installation and positioned according to architectural [AM#0001] \_\_\_\_\_ plans; [AM#0001] \_\_\_\_\_ lighting fixtures shall be symmetrically located according to the room arrangement when uniform illumination is required, or asymmetrically located to suit conditions fixed by design and shown. [AM#0001] \_\_\_\_\_. If any conflicts occur necessitating departures from the drawings, details of and reasons for departures shall be submitted and approved prior to implementing any change. The Contractor shall coordinate the electrical requirements of the mechanical work and provide all power related circuits, wiring, hardware and structural support, even if not shown on the drawings. Drawings are diagrammatic and typical with data taken from "as-built" drawings. Field verify conditions.

#### 1.2.3 Special Environments

##### 1.2.3.1 Weatherproof Locations

Wiring, Fixtures, and equipment in designated locations shall conform to NFPA 70 requirements for installation in damp or wet locations.

#### 1.2.4 Standard Products

Material and equipment shall be a standard product of a manufacturer regularly engaged in the manufacture of the product and shall essentially duplicate items that have been in satisfactory use for at least 2 years prior to bid opening.

#### 1.2.5 Nameplates

##### 1.2.5.1 Identification Nameplates

Verify the existing equipment is labeled. Provide labels for equipment whose label is damaged or missing. Major items of electrical equipment and major components shall be permanently marked with an identification name to identify the equipment by type or function and specific unit number as indicated. Unless otherwise specified, identification nameplates shall be made of laminated plastic in accordance with ASTM D 709 with black outer layers and a white core. Edges shall be chamfered. Plates shall be fastened with black-finished round-head drive screws, except motors, or approved nonadhesive metal fasteners. When the nameplate is to be installed on an irregular-shaped object, the Contractor shall devise an approved support suitable for the application and ensure the proper installation of the supports and nameplates. In all instances, the

nameplate shall be installed in a conspicuous location. At the option of the Contractor, the equipment manufacturer's standard embossed nameplate material with black paint-filled letters may be furnished in lieu of laminated plastic. The following equipment, as a minimum, shall be provided with identification nameplates:

Minimum 1/4 inch  
High Letters

Panelboards  
Safety Switches  
Equipment Enclosures  
[AM#0001] \_\_\_\_\_

[AM#0001] \_\_\_\_\_.

#### 1.2.6 As-Built Drawings

Following the project completion or turnover, within 30 days the Contractor shall furnish 2 sets of as-built drawings to the Contracting Officer.

#### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

##### SD-03 Product Data

Manufacturer's Catalog; G.

Data composed of catalog cuts, brochures, circulars, specifications, product data, and printed information in sufficient detail and scope to verify compliance with the requirements of the contract documents.

Material, Equipment, and Fixture Lists; G.

A complete itemized listing of equipment and materials proposed for incorporation into the work. Each entry shall include an item number, the quantity of items proposed, and the name of the manufacturer of each item.

Installation Procedures; G.

Submit field modification suggested solutions where field conditions differ from Drawings. If departures from the contract drawings are deemed necessary, complete details of such departures, including changes in related portions of the project and reasons why, shall be submitted. Approved departures shall be made at no additional cost to the Government.



#### As-Built Drawings.

The as-built drawings shall be a record of the construction as installed. The drawings shall include all the information shown on the contract drawings, deviations, modifications, and changes from the contract drawings, however minor. The as-built drawings shall be kept at the job site and updated daily. The as-built drawings shall be a full-sized set of prints marked to reflect all deviations, changes, and modifications. The as-built drawings shall be complete and show the location, size, dimensions, part identification, and other information. Additional sheets may be added. The as-built drawings shall be jointly inspected for accuracy and completeness by the Contractor's quality control representative and by the Contracting Officer prior to the submission of each monthly pay estimate. Upon completion of the work, the Contractor shall submit three full sized sets of the marked prints to the Contracting Officer for approval. If upon review, the as-built drawings are found to contain errors and/or omissions, they will be returned to the Contractor for correction.

The Contractor shall correct and return the as-built drawings to the Contracting Officer for approval within ten calendar days from the time the drawings are returned to the Contractor.

#### Onsite Tests; G.

A detailed description of the Contractor's proposed procedures for on-site tests.

#### SD-07 Certificates

##### Materials and Equipment.

The label or listing of the Underwriters Laboratories, Inc., will be accepted as evidence that the materials or equipment conform to the applicable standards of that agency. In lieu of this label or listing, a statement from a nationally recognized, adequately equipped testing agency indicating that the items have been tested in accordance with required procedures and that the materials and equipment comply with all contract requirements will be accepted. Items which are required to be listed and labeled in accordance with Underwriters Laboratories must be affixed with a UL label that states that it is UL listed. No exceptions or waivers will be granted to this requirement. Materials and equipment will be approved based on the manufacturer's published data.

For other than equipment and materials specified to conform to UL publications, a manufacturer's statement indicating complete compliance with the applicable standard of the American Society for Testing and Materials, National Electrical Manufacturers Association, or other commercial standard, is acceptable.

#### 1.4 WORKMANSHIP

Materials and equipment shall be installed in accordance with NFPA 70, recommendations of the manufacturer, and as shown.

## PART 2 PRODUCTS

Products shall conform to the respective publications and other requirements specified below. Materials and equipment not listed below shall be as specified elsewhere in this section. Items of the same classification shall be identical including equipment, assemblies, parts, and components.

### 2.1 CABLES AND WIRES

Conductors No. 8 AWG and larger diameter shall be stranded. Conductors No. 10 AWG and smaller diameter shall be solid, except that conductors for remote control, alarm, and signal circuits, classes 1, 2, and 3, shall be stranded unless specifically indicated otherwise. Conductor sizes and ampacities shown are based on copper, unless indicated otherwise. All conductors shall be copper.

#### 2.1.1 Equipment Manufacturer Requirements

When manufacturer's equipment requires copper conductors at the terminations or requires copper conductors to be provided between components of equipment, provide copper conductors or splices, splice boxes, and other work required to meet manufacturer's requirements.

#### 2.1.2 Aluminum Conductors

Aluminum conductors shall not be used.

#### 2.1.3 Insulation

Unless indicated otherwise, or required by NFPA 70, power and lighting wires shall be 600-volt, Type THWN, THHN, or THW conforming to UL 83, except that grounding wire may be type TW conforming to UL 83; remote-control and signal circuits shall be Type TW, THW or TF, conforming to UL 83. Where lighting fixtures require 90-degree Centigrade (C) conductors, provide only conductors with 90-degree C insulation or better.

#### 2.1.4 Bonding Conductors

ASTM B 1, solid bare copper wire for sizes No. 8 AWG and smaller diameter; ASTM B 8, Class B, stranded bare copper wire for sizes No. 6 AWG and larger diameter.

## 2.2 CONDUIT AND TUBING

### 2.2.1 Electrical, Zinc-Coated Steel Metallic Tubing (EMT)

UL 797

### 2.2.2 Flexible Conduit, Steel and Plastic

General-purpose type, UL 1; liquid tight, UL 360, and UL 1660.

#### 2.2.3 Rigid Metal Conduit

UL 6.

#### 2.2.4 Surface Metal Electrical Raceways and Fittings

UL 5.

### 2.3 CONDUIT AND DEVICE BOXES AND FITTINGS

#### 2.3.1 Boxes, Metallic Outlet

NEMA OS 1 and UL 514A.

#### 2.3.2 Boxes, Switch (Enclosed), Surface-Mounted

UL 98.

#### 2.3.3 Fittings for Conduit and Outlet Boxes

UL 514B.

### 2.4 CONNECTORS, WIRE PRESSURE

#### 2.4.1 For Use With Copper Conductors

UL 486A.

### 2.5 ELECTRICAL GROUNDING AND BONDING EQUIPMENT

UL 467.

#### 2.5.1 Ground Bus

The ground bus shall be bare conductor or flat copper in one piece, if practicable.

### 2.6 LIGHTING FIXTURES, LAMPS, BALLASTS, EMERGENCY EQUIPMENT, CONTROLS AND ACCESSORIES

The following specifications are supported and supplemented by information and details on the drawings. Additional fixtures, if shown, shall conform to this specification. Lamps, lampholders, ballasts, transformers, electronic circuitry and other lighting system components shall be constructed according to industry standards. Equipment shall be tested and listed by a recognized independent testing laboratory for the expected installation conditions. Equipment shall conform to the standards listed below.

#### 2.6.1 Lamps

Lamps shall be constructed to operate in the specified fixture, and shall

function without derating life or output as listed in published data. Lamps shall meet the requirements of the Energy Policy Act of 1992.

- a. Fluorescent lamps shall have color temperature as shown. They shall be designed to operate with the ballasts and circuitry of the fixtures in which they will be used. Fluorescent lamps, including spares, shall be manufactured by one manufacturer to provide for color and performance consistency. Fluorescent lamps shall comply with ANSI C78.1. Fluorescent tube lamp efficiencies shall meet or exceed the following requirements.

T8, 32 watts

(4' lamp)

2800 lumens

(1) Linear fluorescent lamps, unless otherwise indicated, shall be 4 feet long 32 watt T8, 265 mA, with minimum CRI of 75. Lamps of other lengths or types shall be used only where specified or shown. Lamps shall deliver rated life when operated on rapid start ballasts.

(2) Small compact fluorescent lamps shall be twin, double, or triple tube configuration as shown with bi-pin or four-pin snap-in base and shall have minimum CRI of 85. They shall deliver rated life when operated on ballasts as shown. 9 and 13 watt double tube lamps shall comply with ANSI C78.2B. 18 and 26 watt double tube lamps shall comply with ANSI C78.2A. Minimum starting temperature shall be 32 degrees F for twin tube lamps and for double and triple twin tube lamps without internal starter; and 15 degrees F for double and triple twin tube lamps with internal starter.

- b. High intensity discharge lamps, including spares, shall be manufactured by one manufacturer in order to provide color and performance consistency. High intensity discharge lamps shall be designed to operate with the ballasts and circuitry of the fixtures in which they will be used and shall have wattage, shape and base as shown. High intensity discharge lamps, unless otherwise shown, shall have medium or mogul screw base and minimum starting temperature of -20 degrees F. Metal halide lamps, unless otherwise shown, shall have minimum CRI of 65; color temperature of 4,300 degrees Kelvin; shall be -BU configuration if used in base-up position; and shall be -H or high output configuration if used in horizontal position. Lamps shall comply with all applicable ANSI C78.1350, ANSI C78.1351, ANSI C78.1352, ANSI C78.1355, ANSI C78.1375, and ANSI C78.1376.

#### 2.6.2 Ballasts and Transformers

Ballasts or transformers shall be designed to operate the designated lamps within their optimum specifications, without derating the lamps. Lamp and ballast combinations shall be certified as acceptable by the lamp manufacturer.

- a. Fluorescent ballasts shall comply with ANSI C82.1 and shall be mounted integrally within fluorescent fixture housing unless otherwise shown. Ballasts shall have maximum current crest factor of 1.7; high power factor; Class A sound rating; maximum operating case temperature of 77 degrees F above ambient; and shall be rated Class P. Unless otherwise indicated, the minimum number of ballasts shall be used to serve each individual fixture. A single ballast may be used to serve multiple fixtures if they are continuously mounted, identically controlled and factory manufactured for that installation with an integral wireway.

(1) Compact fluorescent ballasts shall comply with IEEE C62.41 Category A transient voltage variation requirements and shall be mounted integrally within compact fluorescent fixture housing unless otherwise shown. Ballasts shall have minimum ballast factor of 0.95; maximum current crest factor of 1.6; high power factor; maximum operating case temperature of 77 degrees F above ambient; shall be rated Class P; and shall have a sound rating of Class A. Ballasts shall meet FCC Class A specifications for EMI/RFI emissions. Ballasts shall operate from nominal line voltage of 120 volts at 60 Hz and maintain constant light output over a line voltage variation of  $\pm 10\%$ . Ballasts shall have an end-of-lamp-life detection and shut-down circuit. Ballasts shall be UL listed and shall contain no PCBs. Ballasts shall contain potting to secure PC board, provide lead strain relief, and provide a moisture barrier.

(2) Electronic fluorescent ballasts shall comply with 47 CFR 18 for electromagnetic interference. Ballasts shall withstand line transients per IEEE C62.41, Category A. Ballasts shall have total harmonic distortion between 10 and 20%; minimum frequency of 20,000Hz; filament voltage between 2.5 and 4.5 volts; maximum starting inrush current of 20 amperes; and shall comply with the minimum Ballast Efficacy Factors shown in the table below. Minimum starting temperature shall be as shown. Ballasts shall carry a manufacturer's full warranty of three years, including a minimum \$10 labor allowance per ballast.

#### ELECTRONIC FLUORESCENT BALLAST EFFICACY FACTORS

LAMP TYPE	TYPE OF STARTER	NOMINAL OPERATIONAL VOLTAGE	NUMBER OF LAMPS	MINIMUM BALLAST EFFICACY FACTOR
32W T8 & compact fluorescent	rapid start	120 V	1	2.54
			2	1.44
			3	0.93
			4	0.73

- b. High intensity discharge ballasts shall comply with UL 1029 and, if multiple supply types, with ANSI C82.4. Ballasts shall have minimum ballast factor of 0.9; high power factor; Class A sound rating; and maximum operating case temperature of 77 degrees F above ambient.

- (1) Electronic high intensity discharge ballasts shall be constant wattage autotransformer type; shall have less than 10% ballast loss; shall have total harmonic distortion between 10 and 20%; and shall have a minimum starting temperature of 0 degrees F.

- (2) Magnetic high intensity discharge ballasts shall have a minimum starting temperature of -20 degrees F.

### 2.6.3 Fixtures

Fixtures shall be in accordance with the size, shape, appearance, finish, and performance shown. Unless otherwise indicated, lighting fixtures shall be provided with housings, junction boxes, wiring, lampholders, mounting supports, trim, hardware and accessories for a complete and operable installation. Recessed housings shall be minimum 20 gauge cold rolled or galvanized steel as shown. Extruded aluminum fixtures shall have minimum wall thickness of 0.125 inches. Plastic lenses shall be 100% virgin acrylic or as shown. Glass lenses shall be tempered. Heat resistant glass shall be borosilicate type. Conoid recessed reflector cones shall be Alzak with clear specular low iridescent finish.

- a. Fluorescent fixtures shall comply with UL 1570. Fixtures shall be plainly marked for proper lamp and ballast type to identify lamp diameter, wattage, color and start type. Marking shall be readily visible to service personnel, but not visible from normal viewing angles. Fluorescent fixture lens frames on recessed and surface mounted troffers shall be one assembly with mitered corners. Integral ballast and wireway compartments shall be easily accessible without the use of special tools. Housings shall be constructed to include grounding necessary to start the lamps. Open fixtures shall be equipped with a sleeve, wire guard, or other positive means to prevent lamps from falling. Medium bi-pin lampholders shall be twist-in type with positive locking position.
- b. High intensity discharge fixture shall comply with UL 1572. Reflectors shall be anodized aluminum. Fixtures for horizontal lamps shall have position oriented lampholders. Lampholders shall be pulse-rated to 5,000 volts. Ballasts shall be integral to fixtures and shall be accessible without the use of special tools. Lamps shall be shielded from direct view with a UV absorbing material such as tempered glass, and shall be circuited through a cut-off switch which will shut off the lamp circuit if the lens is not in place.
- c. Emergency lighting fixtures and accessories shall be constructed and independently tested to meet the requirements of applicable codes. Batteries shall be Nicad or equal with no required maintenance, and shall have a minimum life expectancy of five

years and warranty period of three years.

d. Exit Signs

Exit signs shall be ENERGY STAR compliant, thereby meeting the following requirements. Input power shall be less than 5 watts per face. Letter size and spacing shall adhere to NFPA 101. Luminance contrast shall be greater than 0.8. Average luminance shall be greater than 15 cd/m<sup>2</sup> measured at normal (0 degree) and 45 degree viewing angles. Minimum luminance shall be greater than 8.6 cd/m<sup>2</sup> measured at normal and 45 degree viewing angles. Maximum to minimum luminance shall be less than 20:1 measured at normal and 45 degree viewing angles. The manufacturer warranty for defective parts shall be at least 5 years.

2.6.4 Lampholders, Starters, and Starter Holders

UL 542

2.7 RECEPTACLES

2.7.1 Standard Grade

UL 498.

2.7.2 Ground Fault Interrupters

UL 943, Class A or B.

2.7.3 NEMA Standard Receptacle Configurations

NEMA WD 6.

a. Single and Duplex, 20-Ampere, 125 Volt

20-ampere, non-locking: NEMA type 5-20R, locking: NEMA type L5-20R.

b. 30-Ampere, 250 Volt

Two-pole, 3-wire grounding, non-locking: NEMA type 6-30R.

2.8 SPLICE, CONDUCTOR

UL 486C.

2.9 SNAP SWITCHES

UL 20.

2.10 TAPES

2.10.1 Plastic Tape

UL 510.

### 2.10.2 Rubber Tape

UL 510.

### 2.11 WIRING DEVICES

NEMA WD 1 for wiring devices, and NEMA WD 6 for dimensional requirements of wiring devices.

## PART 3 EXECUTION

### 3.1 GROUNDING

Grounding shall be in conformance with NFPA 70, the contract drawings, and the following specifications.

#### 3.1.1 Ground Bus

Ground bus shall be provided in the electrical equipment rooms as indicated. Noncurrent-carrying metal parts of electrical equipment shall be effectively grounded by bonding to the ground bus. Connections and splices shall be of the brazed, welded, bolted, or pressure-connector type, except that pressure connectors or bolted connections shall be used for connections to removable equipment.

#### 3.1.2 Grounding Conductors

A green equipment grounding conductor, sized in accordance with NFPA 70 shall be provided, regardless of the type of conduit. Equipment grounding bars shall be provided in all panelboards. [AM#0001] \_\_\_\_\_. All equipment grounding conductors, including metallic raceway systems used as such, shall be bonded or joined together in each wiring box or equipment enclosure. Metallic raceways and grounding conductors shall be checked to assure that they are wired or bonded into a common junction. Metallic boxes and enclosures, if used, shall also be bonded to these grounding conductors by an approved means per NFPA 70. When switches, or other utilization devices are installed, any designated grounding terminal on these devices shall also be bonded to the equipment grounding conductor junction with a short jumper.

### 3.2 WIRING METHODS

Wiring shall conform to NFPA 70, the contract drawings, and the following specifications. Unless otherwise indicated, wiring shall consist of insulated conductors installed in electrical metallic tubing. Wire fill in conduits shall be based on NFPA 70 for the type of conduit and wire insulations specified. Reuse existing conduit as applicable. [AM#0001] \_\_\_\_\_.

#### 3.2.1 Conduit and Tubing Systems

Conduit and tubing systems shall be installed as indicated. Conduit sizes shown are based on use of copper conductors with insulation types as described in paragraph WIRING METHODS. Minimum size of raceways shall be



[AM#0001] 1/2 inch. Only metal conduits will be permitted when conduits are required for shielding or other special purposes indicated, or when required by conformance to NFPA 70. Nonmetallic conduit and tubing may be used in damp, wet or corrosive locations when permitted by NFPA 70 and the conduit or tubing system is provided with appropriate boxes, covers, clamps, screws or other appropriate type of fittings. Electrical metallic tubing (EMT) may be installed only within buildings. EMT may be installed in concrete and grout in dry locations. EMT installed in concrete or grout shall be provided with concrete tight fittings. EMT shall not be installed in damp or wet locations, or the air space of exterior masonry cavity walls. Bushings, manufactured fittings or boxes providing equivalent means of protection shall be installed on the ends of all conduits and shall be of the insulating type, where required by NFPA 70. Only UL listed adapters shall be used to connect EMT to rigid metal conduit, cast boxes, and conduit bodies. [AM#0001] \_\_\_\_\_. Penetrations of above grade floor slabs, time-rated partitions and fire walls shall be firestopped in accordance with Section 07840 FIRESTOPPING. Except as otherwise specified, IMC may be used as an option for rigid steel conduit in areas as permitted by NFPA 70.

Raceways [AM#0001] \_\_\_\_\_ shall be kept 6 inches away from parallel runs of [AM#0001] \_\_\_\_\_ hot-water pipes. Raceways shall be concealed within finished walls, ceilings, and floors unless otherwise shown. Raceways crossing structural expansion joints or seismic joints shall be provided with suitable expansion fittings or other suitable means to compensate for the building expansion and contraction and to provide for continuity of grounding. Wiring installed in [AM#0001] crawl spaces shall be suitable for installation in wet locations. Repair floor and walls where damaged or removed for conduit installation.

#### 3.2.1.1 Pull Wires

A pull wire shall be inserted in each empty raceway in which wiring is to be installed if the raceway is more than 50 feet in length and contains more than the equivalent of two 90-degree bends, or where the raceway is more than 150 feet in length. The pull wire shall be of No. 14 AWG zinc-coated steel, or of plastic having not less than 200 pounds per square inch tensile strength. Not less than 10 inches of slack shall be left at each end of the pull wire.

#### 3.2.1.2 Conduit Stub-Ups

Where conduits are to be stubbed up through concrete floors, a short elbow shall be installed below grade to transition from the horizontal run of conduit to a vertical run. A conduit coupling fitting, threaded on the inside shall be installed, to allow terminating the conduit flush with the finished floor. Wiring shall be extended in rigid threaded conduit to equipment, except that where required, flexible conduit may be used 6 inches above the floor. Empty or spare conduit stub-ups shall be plugged flush with the finished floor with a threaded, recessed plug.

#### 3.2.1.3 Changes in Direction of Runs

Changes in direction of runs shall be made with symmetrical bends or cast-metal fittings. Field-made bends and offsets shall be made with an approved hickey or conduit-bending machine. Crushed or deformed raceways

shall not be installed. Trapped raceways in damp and wet locations shall be avoided where possible. Lodgment of plaster, dirt, or trash in raceways, boxes, fittings and equipment shall be prevented during the course of construction. Clogged raceways shall be cleared of obstructions or shall be replaced.

#### 3.2.1.4 Supports

Metallic conduits and tubing, and the support system to which they are attached, shall be securely and rigidly fastened in place to prevent vertical and horizontal movement at intervals of not more than 10 feet and within 3 feet of boxes, cabinets, and fittings, with approved pipe straps, wall brackets, conduit clamps, conduit hangers, threaded C-clamps, beam clamps, or ceiling trapeze. Loads and supports shall be coordinated with supporting structure to prevent damage or deformation to the structure. Loads shall not be applied to joist bridging. Attachment shall be by wood screws or screw-type nails to wood; by toggle bolts on hollow masonry units; by expansion bolts on concrete or brick; by machine screws, welded threaded studs, heat-treated or spring-steel-tension clamps on steel work. Nail-type nylon anchors or threaded studs driven in by a powder charge and provided with lock washers and nuts may be used in lieu of expansion bolts or machine screws. Raceways or pipe straps shall not be welded to steel structures. Cutting the main reinforcing bars in reinforced concrete beams or joists shall be avoided when drilling holes for support anchors. Holes drilled for support anchors, but not used, shall be filled. In partitions of light steel construction, sheet-metal screws may be used. Raceways shall not be supported using wire or nylon ties. Raceways shall be independently supported from the structure. Upper raceways shall not be used as a means of support for lower raceways. Supporting means shall not be shared between electrical raceways and mechanical piping or ducts. [AM#0001] \_\_\_\_\_. Conduits shall be fastened to sheet-metal boxes and cabinets with two locknuts where required by NFPA 70, where insulating bushings are used, and where bushings cannot be brought into firm contact with the box; otherwise, a single locknut and bushing may be used. Threadless fittings for electrical metallic tubing shall be of a type approved for the conditions encountered. Additional support for horizontal runs is not required when EMT rests on steel stud cutouts.

#### 3.2.1.5 Exposed Raceways

Exposed raceways shall be installed parallel or perpendicular to walls, structural members, or intersections of vertical planes and ceilings. [AM#0001] \_\_\_\_\_.

#### 3.2.1.6 Exposed Risers

Exposed risers in wire shafts of multistory buildings shall be supported by U-clamp hangers at each floor level, and at intervals not to exceed 10 feet.

#### 3.2.1.7 [AM#0001] DELETED

#### 3.2.2 Cables and Conductors

Installation shall conform to the requirements of NFPA 70. [AM#0001] \_\_\_\_.

#### 3.2.2.1 Sizing

Unless otherwise noted, all sizes are based on copper conductors and the insulation types indicated. Sizes shall be not less than indicated. Branch-circuit conductors shall be not smaller than No. 12 AWG. Conductors for branch circuits of 120 volts more than 100 feet long and of 277 volts more than 230 feet long, from panel to load center, shall be no smaller than No. 10 AWG. [AM#0001] \_\_\_\_.

#### 3.2.2.2 Use of Aluminum Conductors in Lieu of Copper

Aluminum conductors shall not be used.

#### 3.2.2.3 Cable Splicing

Splices shall be made in an accessible location. Crimping tools and dies shall be approved by the connector manufacturer for use with the type of connector and conductor.

- a. Copper Conductors, 600 Volt and Under: Splices in conductors No. 10 AWG and smaller diameter shall be made with an insulated, pressure-type connector. Splices in conductors No. 8 AWG and larger diameter shall be made with a solderless connector and insulated with tape or heat-shrink type insulating material equivalent to the conductor insulation.

#### 3.2.2.4 Conductor Identification and Tagging

Power, control, and signal circuit conductor identification shall be provided within each enclosure where a tap, splice, or termination is made.

Where several feeders pass through a common pull box, the feeders shall be tagged to indicate clearly the electrical characteristics, circuit number, and panel designation. Phase conductors of low voltage power circuits shall be identified by color coding. Phase identification by a particular color shall be maintained continuously for the length of a circuit, including junctions.

- a. Color coding shall be provided for [AM#0001] \_\_\_\_ branch and ground conductors. Color shall be green for grounding conductors and white for neutrals; except where neutrals of more than one system are installed in the same raceway or box, other neutral shall be white with colored (not green) stripe. The color coding for 3-phase [AM#0001] \_\_\_\_ low voltage systems shall be as follows:

120/208-volt, 3-phase: Black(A), red(B), and blue(C).

- b. Conductor phase and voltage identification shall be made by color-coded insulation for all conductors smaller than No. 6 AWG. For conductors No. 6 AWG and larger, identification shall be made by color-coded insulation, or conductors with black insulation may be furnished and identified by the use of half-lapped bands of

colored electrical tape wrapped around the insulation for a minimum of 3 inches of length near the end, or other method as submitted by the Contractor and approved by the Contracting Officer.

c. [AM#0001] DELETED

### 3.3 BOXES AND SUPPORTS

Boxes shall be provided in the wiring or raceway systems where required by NFPA 70 for pulling of wires, making connections, and mounting of devices or fixtures. Pull boxes shall be furnished with screw-fastened covers. Indicated elevations are approximate. Unless otherwise indicated, boxes for wall switches shall be mounted 48 inches above finished floors. Switch and outlet boxes located on opposite sides of fire rated walls shall be separated by a minimum horizontal distance of 24 inches. The total combined area of all box openings in fire rated walls shall not exceed 100 square inches per 100 square feet. Maximum box areas for individual boxes in fire rated walls vary with the manufacturer and shall not exceed the maximum specified for that box in UL Elec Const Dir. Only boxes listed in UL Elec Const Dir shall be used in fire rated walls.

#### 3.3.1 Box Applications

Each box shall have not less than the volume required by NFPA 70 for number of conductors enclosed in box. Boxes for metallic raceways shall be listed for the intended use when located in normally wet locations, when flush or surface mounted on outside of exterior surfaces, or when located in [AM#0001] crawl spaces. Boxes installed in wet locations and boxes installed flush with the outside of exterior surfaces shall be gasketed. Boxes for mounting lighting fixtures shall be not less than 4 inches square, or octagonal, except smaller boxes may be installed as required by fixture configuration, as approved. Cast-metal boxes with 3/32 inch wall thickness are acceptable. Large size boxes shall be NEMA 1 or as shown. Boxes in other locations shall be sheet steel except that aluminum boxes may be used with aluminum conduit, and nonmetallic boxes may be used with nonmetallic conduit and tubing or nonmetallic sheathed cable system, when permitted by NFPA 70. Boxes for use in masonry-block or tile walls shall be square-cornered, tile-type, or standard boxes having square-cornered, tile-type covers.

#### 3.3.2 Brackets and Fasteners

Boxes and supports shall be fastened to wood with wood screws or screw-type nails of equal holding strength, with bolts and metal expansion shields on concrete or brick, with toggle bolts on hollow masonry units, and with machine screw or welded studs on steel work. Threaded studs driven in by powder charge and provided with lockwashers and nuts, or nail-type nylon anchors may be used in lieu of expansion shields, or machine screws. Penetration of more than 1-1/2 inches into reinforced-concrete beams or more than 3/4 inch into reinforced-concrete joists shall avoid cutting any main reinforcing steel. The use of brackets which depend on gypsum wallboard or plasterboard for primary support will not be permitted. In partitions of light steel construction, bar hangers with 1 inch long studs,

mounted between metal wall studs or metal box mounting brackets shall be used to secure boxes to the building structure. When metal box mounting brackets are used, additional box support shall be provided on the side of the box opposite the brackets. This additional box support shall consist of a minimum 12 inch long section of wall stud, bracketed to the opposite side of the box and secured by two screws through the wallboard on each side of the stud. Metal screws may be used in lieu of the metal box mounting brackets.

### 3.3.3 Mounting in Walls, Ceilings, or Recessed Locations

[AM#0001] \_\_\_\_\_. Boxes mounted in combustible walls or ceiling material shall be mounted flush with the finished surface. The use of gypsum or plasterboard as a means of supporting boxes will not be permitted. Boxes installed for concealed wiring shall be provided with suitable extension rings or plaster covers, as required. [AM#0001] \_\_\_\_\_. Separate boxes shall be provided for flush or recessed fixtures when required by the fixture terminal operating temperature, and fixtures shall be readily removable for access to the boxes [AM#0001] \_\_\_\_\_.

### 3.3.4 Installation in Overhead Spaces

In open overhead spaces, cast-metal boxes threaded to raceways need not be separately supported except where used for fixture support; cast-metal boxes having threadless connectors and sheet metal boxes shall be supported directly from the building structure or by bar hangers. Hangers shall not be fastened to or supported from joist bridging. Where bar hangers are used, the bar shall be attached to raceways on opposite sides of the box and the raceway shall be supported with an approved type fastener not more than 24 inches from the box.

## 3.4 DEVICE PLATES

One-piece type device plates shall be provided for all outlets and fittings. Plates on unfinished walls and on fittings shall be of zinc-coated sheet steel, cast-metal, or impact resistant plastic having rounded or beveled edges. Plates on finished walls shall be of steel with baked enamel finish or impact-resistant plastic and shall be ivory. Screws shall be of metal with countersunk heads, in a color to match the finish of the plate. Plates shall be installed with all four edges in continuous contact with finished wall surfaces without the use of mats or similar devices. Plaster fillings will not be permitted. Plates shall be installed with an alignment tolerance of 1/16 inch. The use of sectional-type device plates will not be permitted. Plates installed in wet locations shall be gasketed and provided with a hinged, gasketed cover, unless otherwise specified.

## 3.5 RECEPTACLES

### 3.5.1 Single and Duplex, 15 or 20-ampere, 125 volt

Single and duplex receptacles shall be rated 20 amperes, 125 volts, two-pole, three-wire, grounding type with polarized parallel slots. Bodies shall be of ivory to match color of switch handles in the same room,

[AM#0001] \_\_\_\_\_ and supported by mounting strap having plaster ears. Contact arrangement shall be such that contact is made on two sides of an inserted blade. Receptacle shall be side- or back-wired with two screws per terminal. The third grounding pole shall be connected to the metal mounting yoke. [AM#0001] \_\_\_\_\_. Receptacles with ground fault circuit interrupters shall have the current rating as indicated, and shall be UL Class A type unless otherwise shown. Ground fault circuit protection shall be provided as required by NFPA 70 and as indicated on the drawings.

### 3.5.2 Weatherproof Applications

Weatherproof receptacles shall be suitable for the environment, damp or wet as applicable, and the housings shall be labeled to identify the allowable use. Receptacles shall be marked in accordance with UL 514A for the type of use indicated; "Damp locations", "Wet Locations", "Wet Location Only When Cover Closed". Assemblies shall be installed in accordance with the manufacturer's recommendations.

#### 3.5.2.1 Damp Locations

Receptacles in damp locations shall be mounted in an outlet box with a gasketed, weatherproof, cast-metal cover plate (device plate, box cover) and a gasketed cap (hood, receptacle cover) over each receptacle opening. The cap shall be either a screw-on type permanently attached to the cover plate by a short length of bead chain or shall be a flap type attached to the cover with a spring loaded hinge.

#### 3.5.2.2 Wet Locations

Receptacles in wet locations shall be installed in an assembly rated for such use whether the plug is inserted or withdrawn, unless otherwise indicated. In a duplex installation, the receptacle cover shall be configured to shield the connections whether one or both receptacles are in use.

### 3.5.3 Receptacles, 20-Ampere, 250-Volt

Receptacles, single, 20-ampere, 250-volt, shall be ivory molded plastic, two-pole, three-wire or three-pole, four-wire, grounding type complete with appropriate mating cord-grip plug.

### 3.5.4 Receptacles, 30-Ampere, 250-Volt

Receptacles, single, 30-ampere, 250-volt, shall be molded-plastic, three-pole, three-wire type, complete with appropriate mating cord-grip plug.

## 3.6 WALL SWITCHES

Wall switches shall be of the totally enclosed tumbler type. The wall switch handle and switch plate color shall be ivory. Wiring terminals shall be of the screw type or of the solderless pressure type having suitable conductor-release arrangement. Not more than one switch shall be installed in a single-gang position. Switches shall be rated 20-ampere

120-volt for use on alternating current only. [AM#0001] \_\_\_\_.

### 3.7 MOTOR-DISCONNECT MEANS

Each motor shall be provided with a disconnecting means when required by NFPA 70 even though not indicated. For single-phase motors, a single or double pole toggle switch, rated only for alternating current, will be acceptable for capacities less than 30 amperes, provided the ampere rating of the switch is at least 125 percent of the motor rating. Switches shall disconnect all ungrounded conductors.

### 3.8 LIGHTING FIXTURES, LAMPS AND BALLASTS

This paragraph shall cover the installation of lamps, lighting fixtures and ballasts in interior or building mounted applications.

#### 3.8.1 Lamps

Lamps of the type, wattage, and voltage rating indicated shall be delivered to the project in the original cartons and installed just prior to project completion. Lamps installed and used for working light during construction shall be replaced prior to turnover to the Government if more than 15% of their rated life has been used. Lamps shall be tested for proper operation prior to turn-over and shall be replaced if necessary with new lamps from the original manufacturer. 10% spare lamps of each type, from the original manufacturer, shall be provided.

#### 3.8.2 Lighting Fixtures

Fixtures shall be as [AM#0001] scheduled and shall conform to the following specifications [AM#0001] \_\_\_\_\_. Illustrations [AM#0001] included are indicative of the general type desired and are not intended to restrict selection to fixtures of any particular manufacturer. Fixtures of similar designs and equivalent energy efficiency, light distribution and brightness characteristics, and of equal finish and quality will be acceptable if approved. [AM#0001] \_\_\_\_\_.

##### 3.8.2.1 Accessories

Accessories such as straps, mounting plates, nipples, or brackets shall be provided for proper installation.

##### 3.8.2.2 Ceiling Fixtures

Ceiling fixtures shall be coordinated with and suitable for installation in, on or from the ceiling as shown. Installation and support of fixtures shall be in accordance with NFPA 70 and manufacturer's recommendations. Where seismic requirements are specified herein, fixtures shall be supported as shown or specified. [AM#0001] \_\_\_\_\_.

### 3.9 EQUIPMENT CONNECTIONS

Wiring not furnished and installed under other sections of the specifications for the connection of electrical equipment as indicated on

the drawings shall be furnished and installed under this section of the specifications. Connections shall comply with the applicable requirements of paragraph WIRING METHODS. Flexible conduits 6 feet or less in length shall be provided to all electrical equipment subject to periodic removal, vibration, or movement and for all motors. All motors shall be provided with separate grounding conductors. Liquid-tight conduits shall be used in damp or wet locations.

### 3.9.1 Motors and Motor Control

Motors, motor controls, and motor control centers shall be installed in accordance with NFPA 70, the manufacturer's recommendations, and as indicated. Wiring shall be extended to motors, motor controls, and motor control centers and terminated.

### 3.9.2 [AM#0001] DELETED

### 3.10 CIRCUIT PROTECTIVE DEVICES

The Contractor shall calibrate, adjust, set and test each [AM#0001] \_\_\_\_\_ adjustable circuit protective device to ensure that they will function properly prior to the initial energization of the [AM#0001] \_\_\_\_\_ power system under actual operating conditions.

### 3.11 PAINTING AND FINISHING

Field-applied paint on exposed surfaces shall be provided under Section 09900 PAINTING, GENERAL.

### 3.12 REPAIR OF EXISTING WORK

The work shall be carefully laid out in advance, and where cutting, channeling, chasing, or drilling of floors, walls, partitions, ceiling, or other surfaces is necessary for the proper installation, support, or anchorage of the conduit, raceways, or other electrical work, this work shall be carefully done, and any damage to building, piping, or equipment shall be repaired by skilled mechanics of the trades involved at no additional cost to the Government.

### 3.13 FIELD TESTING

Field testing shall be performed in the presence of the Contracting Officer. The Contractor shall notify the Contracting Officer 30 days prior to conducting tests. The Contractor shall furnish all materials, labor, and equipment necessary to conduct field tests. The Contractor shall perform all tests and inspection recommended by the manufacturer unless specifically waived by the Contracting Officer. The Contractor shall maintain a written record of all tests which includes date, test performed, personnel involved, devices tested, serial number and name of test equipment, and test results. All field test reports will be signed and dated by the Contractor.

#### 3.13.1 Safety



The Contractor shall provide and use safety devices such as rubber gloves, protective barriers, and danger signs to protect and warn personnel in the test vicinity. The Contractor shall replace any devices or equipment which are damaged due to improper test procedures or handling.

### 3.13.2 Cable Tests

The Contractor shall be responsible for identifying all equipment and devices that could be damaged by application of the test voltage and ensuring that they have been properly disconnected prior to performing insulation resistance testing. An insulation resistance test shall be performed on all low [AM#0001] \_\_\_\_\_ voltage cables after the cables are installed in their final configuration and prior to energization. The test voltage shall be 500 volts DC applied for one minute between each conductor and ground and between all possible combinations of conductors. The minimum value of resistance shall be:

$$R \text{ in megohms} = (\text{rated voltage in kV} + 1) \times 1000 / (\text{length of cable in feet})$$

Each cable failing this test shall be repaired or replaced. The repaired cable system shall then be retested until failures have been eliminated.

#### 3.13.2.1 Low Voltage Cable Tests

- a. Continuity test.
- b. Insulation resistance test.

### 3.13.3 Circuit Breaker Tests

The following field tests shall be performed on circuit breakers.

#### 3.13.3.1 Circuit Breakers, Molded Case

- a. Insulation resistance test phase-to-phase, all combinations.
- b. Insulation resistance test phase-to-ground, each phase.
- c. Closed breaker contact resistance test.
- d. Manual operation of the breaker.

### 3.14 OPERATING TESTS

After the installation is completed, and at such time as the Contracting Officer may direct, the Contractor shall conduct operating tests for approval. The equipment shall be demonstrated to operate in accordance with the specified requirements. An operating test report shall be submitted in accordance with paragraph FIELD TEST REPORTS.

### 3.15 ACCEPTANCE

Final acceptance of the facility will not be given until the Contractor has successfully completed all tests and after all defects in installation,

material or operation have been corrected.

-- End of Section --

## SECTION 16710

## PREMISES DISTRIBUTION SYSTEM

04/97

AMENDMENT NO. 0001

## PART 1 GENERAL

## 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## ELECTRONIC INDUSTRIES ALLIANCE (EIA)

ANSI/TIA/EIA-568-A	(1995) Commercial Building Telecommunications Cabling Standard
ANSI/TIA/EIA-568-A-5	(2000) Transmission Performance Specifications for 4-pair 100 ohm Category 5E Cabling
ANSI/TIA/EIA-569-A	(1998) Commercial Building Standard for Telecommunications Pathways and Spaces
ANSI/TIA/EIA-606	(1993) Administration Standard for the Telecommunications Infrastructure of Commercial Buildings
TIA/EIA TSB 67	(1995) Transmission Performance Specifications for Field Testing of Unshielded Twisted-Pair Cabling Systems

## NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(1999) National Electrical Code
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## 1.2 SYSTEM DESCRIPTION

The premises distribution system shall consist of inside-plant horizontal, riser, and backbone cables and connecting hardware to transport telephone and data (including LAN) signals between equipment items in a building.

## 1.3 ENVIRONMENTAL REQUIREMENTS

Connecting hardware shall be rated for operation under ambient conditions of 32 to 140 degrees F and in the range of 0 to 95 percent relative humidity, noncondensing.

## 1.4 QUALIFICATIONS

## 1.4.1 Minimum Contractor Qualifications

All work under this section shall be performed by and all equipment shall be furnished and installed by a certified Telecommunications Contractor, hereafter referred to as the Contractor. The Contractor shall have the following qualifications in Telecommunications Systems installation:

- a. Contractor shall have a minimum of 3 years experience in the application, installation and testing of the specified systems and equipment.
- b. All supervisors and installers assigned to the installation of this system or any of its components shall have factory certification from each equipment manufacturer that they are qualified to install and test the provided products.
- c. All installers assigned to the installation of this system or any of its components shall have a minimum of 3 years experience in the installation of the specified copper and fiber optic cable and components.

#### 1.4.2 Minimum Manufacturer Qualifications

The equipment and hardware provided under this contract will be from manufacturers that have a minimum of 3 years experience in producing the types of systems and equipment specified.

#### 1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

##### SD-02 Shop Drawings

Record Drawings; G.

Record drawings for the installed wiring system infrastructure per ANSI/TIA/EIA-606. The drawings shall show the location of all cable terminations and location and routing of all backbone and horizontal cables. The identifier for each termination and cable shall appear on the drawings.

##### SD-06 Test Reports

Test Reports.

Test reports in booklet form with witness signatures verifying execution of tests. Reports shall show the field tests performed to verify compliance with the specified performance criteria. Test reports shall include record of the physical parameters verified during testing. Test reports shall be submitted within 30 days after completion of testing.

## SD-07 Certificates

## Premises Distribution System.

Written certification that the premises distribution system complies with the ANSI/TIA/EIA-568-A, ANSI/TIA/EIA-569-A, and ANSI/TIA/EIA-606 standards.

## Materials and Equipment.

Where materials or equipment are specified to conform, be constructed or tested to meet specific requirements, certification that the items provided conform to such requirements. Certification by a nationally recognized testing laboratory that a representative sample has been tested to meet the requirements, or a published catalog specification statement to the effect that the item meets the referenced standard, will be acceptable as evidence that the item conforms. Compliance with these requirements does not relieve the Contractor from compliance with other requirements of the specifications.

## InstallersG.

The Contractor shall submit certification that all the installers are factory certified to install and test the provided products.

## 1.6 DELIVERY AND STORAGE

Equipment delivered and placed in storage shall be stored with protection from the weather, humidity and temperature variation, dirt and dust or other contaminants.

## 1.7 OPERATION AND MAINTENANCE MANUALS

Commercial off the shelf manuals shall be furnished for operation, installation, configuration, and maintenance for all products provided as a part of the premises distribution system. Specification sheets for all cable, connectors, and other equipment shall be provided.

## 1.8 RECORD KEEPING AND DOCUMENTATION

## 1.8.1 Cables

A record of all installed cable shall be provided in hard copy format per ANSI/TIA/EIA-606. The cable records shall include only the required data fields per ANSI/TIA/EIA-606.

## 1.8.2 Termination Hardware

A record of all installed patch panels and outlets shall be provided in hard copy format per ANSI/TIA/EIA-606. The hardware records shall include only the required data fields per ANSI/TIA/EIA-606.

## PART 2 PRODUCTS

### 2.1 MATERIALS AND EQUIPMENT

Materials and equipment shall be the standard products of a manufacturer regularly engaged in the manufacture of the products and shall be the manufacturer's latest standard design that has been in satisfactory use for at least 1 year prior to installation. Materials and equipment shall conform to the respective publications and other requirements specified below and to the applicable requirements of NFPA 70.

### 2.2 UNSHIELDED TWISTED PAIR CABLE SYSTEM

#### 2.2.1 Horizontal Cable

Horizontal cable shall meet the requirements of ANSI/TIA/EIA-568-A-5 for Category 5e. Cable shall be label-verified. Cable jacket shall be factory marked at regular intervals indicating verifying organization and performance level. Cable shall be rated CMG per NFPA 70.

#### 2.2.2 Connecting Hardware

Connecting and cross-connecting hardware shall be the same category as the cable it serves. Hardware shall be in accordance with ANSI/TIA/EIA-568-A.

##### 2.2.2.1 Telecommunications Outlets

Wall and desk outlet plates shall come equipped with one modular jack. Modular jacks shall be the same category as the cable they terminate and shall meet the requirements of ANSI/TIA/EIA-568-A. Modular jack pin/pair configuration shall be T568A per ANSI/TIA/EIA-568-A. Modular jacks shall be unkeyed. Faceplates shall be provided and shall be ivory in color, impact resistant plastic. The modular jacks shall conform to the requirements of ANSI/TIA/EIA-568-A, and shall be rated for use with Category 5e cable in accordance with ANSI/TIA/EIA-568-A-5 and shall meet the Link Test parameters as listed in TIA/EIA TSB 67 and supplemented by ANSI/TIA/EIA-568-A-5.

##### 2.2.2.2 Patch Panels

Patch panels shall consist of eight-position modular jacks, with rear mounted type 110 insulation displacement connectors, arranged in rows or columns on wall mounted panels. Jack pin/pair configuration shall be T568A per ANSI/TIA/EIA-568-A. Jacks shall be unkeyed. Panels shall be labeled with alphanumeric x-y coordinates. The modular jacks shall conform to the requirements of ANSI/TIA/EIA-568-A, and shall be rated for use with Category 5e cable in accordance with ANSI/TIA/EIA-568-A-5 and shall meet the Link Test parameters as listed in TIA/EIA TSB 67 and supplemented by ANSI/TIA/EIA-568-A-5.

##### 2.2.2.3 Patch Cords

Patch cords shall be cable assemblies consisting of flexible, twisted pair

stranded wire with eight-position plugs at each end. Cable shall be label-verified. Cable jacket shall be factory marked at regular intervals indicating verifying organization and performance level. Patch cords shall be wired straight through; pin numbers shall be identical at each end and shall be paired to match T568A patch panel jack wiring per ANSI/TIA/EIA-568-A. Patch cords shall be unkeyed. Patch cords shall be factory assembled. Patch cords shall conform to the requirements of ANSI/TIA/EIA-568-A-5 for Category 5e.

#### 2.2.2.4 [AM#0001] DELETED

#### 2.3 [AM#0001] DELETED

#### 2.4 EQUIPMENT MOUNTING BACKBOARD

Plywood backboards shall be reused.

#### 2.5 TELECOMMUNICATIONS OUTLET BOXES

Electrical boxes for telecommunication outlets shall be 4-11/16 inch square by 2-1/8 inches deep with minimum 3/8 inch deep single or two gang plaster ring as shown. Provide a minimum 3/4 inch conduit.

### PART 3 EXECUTION

#### 3.1 INSTALLATION

System components and appurtenances shall be installed in accordance with NFPA 70, manufacturer's instructions and as shown. Necessary interconnections, services, and adjustments required for a complete and operable signal distribution system shall be provided. Components shall be labeled in accordance with ANSI/TIA/EIA-606. Penetrations in fire-rated construction shall be firestopped in accordance with Section 07840 FIRESTOPPING. Conduits, outlets and raceways shall be installed in accordance with Section 16415 ELECTRICAL WORK, INTERIOR. Wiring shall be installed in accordance with ANSI/TIA/EIA-568-A and as specified in Section 16415 ELECTRICAL WORK, INTERIOR. Wiring, and terminal blocks and outlets shall be marked in accordance with ANSI/TIA/EIA-606. [AM#0001] \_\_\_\_.

##### 3.1.1 Horizontal Distribution Cable

The rated cable pulling tension shall not be exceeded. Cable shall not be stressed such that twisting, stretching or kinking occurs. Cable shall not be spliced. Cable shall not be run through structural members or in contact with pipes, ducts, or other potentially damaging items. Placement of cable parallel to power conductors shall be avoided, if possible; a minimum separation of 12 inches shall be maintained when such placement cannot be avoided. Cables shall be terminated; no cable shall contain unterminated elements. Minimum bending radius shall not be exceeded during installation or once installed. Cable ties shall not be excessively tightened such that the transmission characteristics of the cable are altered.

##### 3.1.2 Telecommunications Outlets

### 3.1.2.1 Faceplates

As a minimum each jack shall be labeled as to its function and a unique number to identify cable link.

### 3.1.2.2 Cables

Unshielded twisted pair cables shall have a minimum of 6 inches of slack cable loosely coiled into the telecommunications outlet boxes. Minimum manufacturers bend radius for each type of cable shall not be exceeded.

### 3.1.3 [AM#0001] DELETED

### 3.1.4 [AM#0001] DELETED

### 3.1.5 [AM#0001] DELETED

## 3.2 TERMINATION

Cables and conductors shall sweep into termination areas; cables and conductors shall not bend at right angles. Manufacturer's minimum bending radius shall not be exceeded.

### 3.2.1 Unshielded Twisted Pair Cable

Each pair shall be terminated on appropriate outlets, terminal blocks or patch panels. No cable shall be unterminated or contain unterminated elements. Pairs shall remain twisted together to within the proper distance from the termination as specified in ANSI/TIA/EIA-568-A. Conductors shall not be damaged when removing insulation. Wire insulation shall not be damaged when removing outer jacket.

### 3.3 [AM#0001] DELETED

## 3.4 ADDITIONAL MATERIALS

The Contractor shall provide the following additional materials required for facility startup.

- a. 10 of each type outlet.
- b. 10 of each type cover plate.
- c. [AM#0001] DELETED
- d. [AM#0001] DELETED
- e. [AM#0001] DELETED

## 3.5 ADMINISTRATION AND LABELING

### 3.5.1 Labeling



#### 3.5.1.1 Labels

All labels shall be in accordance with ANSI/TIA/EIA-606.

#### 3.5.1.2 Cable

All cables will be labeled using color labels on both ends with encoded identifiers per ANSI/TIA/EIA-606.

#### 3.5.1.3 Termination Hardware

All workstation outlets and patch panel connections will be labeled using color coded labels with encoded identifiers per ANSI/TIA/EIA-606.

### 3.6 TESTING

Materials and documentation to be furnished under this specification are subject to inspections and tests. All components shall be terminated prior to testing. Equipment and systems will not be accepted until the required inspections and tests have been made, demonstrating that the signal distribution system conforms to the specified requirements, and that the required equipment, systems, and documentation have been provided.

#### 3.6.1 Unshielded Twisted Pair Tests

All metallic cable pairs shall be tested for proper identification and continuity. All opens, shorts, crosses, grounds, and reversals shall be corrected. Correct color coding and termination of each pair shall be verified in the [AM#0001] electrical room and at the outlet. Horizontal wiring shall be tested from and including the termination device in the [AM#0001] electrical room to and including the modular jack in each room. [AM#0001] \_\_\_\_\_. These test shall be completed and all errors corrected before any other tests are started.

#### 3.6.2 Category 5e Circuits

All category 5e circuits shall be tested using a test set that meets the Class II accuracy requirements of TIA/EIA TSB 67 standard, including the additional tests and test set accuracy requirements of ANSI/TIA/EIA-568-A-5.

Testing shall use the Basic Link Test procedure of TIA/EIA TSB 67, as supplemented by ANSI/TIA/EIA-568-A-5.. Cables and connecting hardware which contain failed circuits shall be replaced and retested to verify the standard is met.

-- End of Section --